

This is a self-archived version of an original article. This version may differ from the original in pagination and typographic details.

Author(s): Vallius, Suvi; Virtanen, Aila; Rautiainen, Antti; Järvenpää, Marko

Title: Goodwill and Ethics : Evidence from Finland

Year: 2019

Version: Published version

Copyright: © Business and Organization Ethics Network (BON), 2019

Rights: In Copyright

Rights url: <https://rightsstatements.org/page/InC/1.0/>

Please cite the original version:

Vallius, S., Virtanen, A., Rautiainen, A., & Järvenpää, M. (2019). Goodwill and Ethics : Evidence from Finland. *Electronic Journal of Business Ethics and Organization Studies*, 24(1), 8-18.
http://ejbo.jyu.fi/pdf/ejbo_vol24_no1_pages_8-18.pdf

Goodwill and Ethics – Evidence from Finland

Suvi Vallius
Aila Virtanen
Antti Rautiainen
Marko Järvenpää

Abstract

Goodwill appears as an intangible asset in the parent company balance sheet after purchasing a company, especially with big expectations of growth and synergy. However, there are ethical issues involved in presenting and accounting for goodwill. For example, if the manager pays too much for a company in the hubris of closing a deal in order to obtain his/her bonuses, the excess amount paid can currently be “hidden” into the parent company balance sheet under the name of goodwill. In this paper, we analyse the possible ethical dilemmas of goodwill accounting, valuation, impairments and risks. In particular, we ask, what ethical considerations are related to goodwill accounting, implied by goodwill changes and the relations between goodwill, risk and other fundamentals, such as profitability. Our empirical illustration, using Finnish small listed company data from 2007 to 2014, shows that high beta (indicating high business risk) correlates positively with high goodwill. This signals potential problems in the ethical and managerial practices and reflects heightened risks for the users of financial statements, such as analysts and auditors.

Key Words: goodwill, accounting, ethics, business risks, Finland

Introduction

Goodwill is a classic subject in accounting research but researchers still have contradictory views about goodwill (Bugeja & Gallery, 2006; Johnson & Petrone, 1998; Owens, 1923; Seetharaman, Balachandran & Saravanan, 2004). Goodwill is the surplus price paid in relation to the fair market value of the net assets of an acquired company, and it is visible as an intangible asset in the parent company balance sheet after purchasing a company with big expectations of growth and synergy (IAS 16; Seetharaman et al., 2004). So what is so problematic about goodwill as a managerial issue from an ethical point of view?

Well, if the manager pays too much for a company in the hubris of closing a deal (see Roll 1986), or to increase the company size in order to obtain his/her bonuses, the excess amount paid is “hidden” to the parent company balance sheet under the name of goodwill. Further, goodwill is only expensed if its value is impaired, i.e. there are no future expectations of getting the cash flows, the money back. Here the manager may influence what is seen as likely future outcome from the acquisition. Especially in IT business, the “word on the street” is that even ridiculous amounts have been paid for small IT companies with high hopes but low incomes. In this paper, we discuss the managerial and ethical problems related to goodwill and illustrate this analysis with some Finnish financial statement analysis of the amounts and write-downs of goodwill. We ask whether goodwill accounting allows manipulative practices and misconceptions, likely to result in bad will among investors and managers.

Several companies have announced large-scale goodwill impairments. For example, Trainers’ House, a Finnish medium-sized company, announced an impairment of 17.6 million euros in 2011. Internationally, for example Microsoft announced an impairment of 6.2 billion dollars in 2012. The impairments mentioned above resulted in net losses for the financial period. Another international example is Hewlett-Packard, which made an impairment of 8.8 billion dollars

in November 2012 for an 11 billion dollar acquisition the company made only one year before. These multi-million impairments indicate that careless purchase or valuation of the company, and thereby incorrect valuation of goodwill, can result in heavy losses in companies of any size, even years after the acquisition. Seetharaman, Sreenivasan, Sudha & Ya Yee (2005) state that measuring the fair value of the goodwill is not unambiguous and companies should make detailed plans for maintaining the value of goodwill. However, previous research about the effects of goodwill impairment seems to focus on big companies and big markets (see Bugeja & Gallery, 2006; Hirschey & Richardson, 2002). In this paper, we study the effects of goodwill impairments of small and medium-sized companies in the Finnish market.

In 2005, the listed companies in Finland started to follow the International Financial Reporting Standards (IAS/IFRS) and the required annual impairment tests for goodwill. Before that, Finnish companies applied the principle of straight-line amortization of goodwill. The true-and-fair-view principle given by IFRS requires that the users of financial statements must be able to trust the information they get from the firm. This is a historically developed idea of a responsibility of the firm’s management and the accounting practitioners who prepare the annual reports, as well as a matter of image about the company. (e.g. Virtanen, 2009.)

Calculating goodwill for financial reporting is not only a technical matter with no connection with ethics (Melé, Rosanas & Fontrodona, 2017). We focus on goodwill, although there are several ways that accountants and managers can influence the reported accounting results of their organizational units (Fischer & Rosenzweig, 1995). Indeed, there is a link between ethics and financial reporting: companies with a high ethical commitment exhibit better quality financial reporting, and less earnings management, than those with a lower level of ethical commitment (Choi & Pae, 2011). In this paper, the analysis will be conducted in order to find out the possible ethical dilemmas that are associated with

goodwill accounting, valuation, impairments and risk. Our research question is as follows: What ethical considerations are there in goodwill accounting, implied by goodwill changes and the relations between goodwill, risk and other fundamentals?

The empirical illustration of this study examines the connections between goodwill and financial statement fundamentals, such as profitability (see Lev & Thiagarajan, 1993), and risk (measured with beta), using Finnish small listed company data from 2007 to 2014. We find, for example, that high beta (indicating high risk) correlates positively with high goodwill. We conclude that such finding may signal distrust in the ethical and managerial practices and reflect heightened risks for other users of financial statements, such as analysts and auditors.

Goodwill and goodwill accounting

Previous research has focused mainly on the determination of the concept of goodwill and finding the correct book value of goodwill (mm. Bloom, 2009; Gore & Zimmerman, 2010; Gynther, 1969; Johnson & Petrone, 1998). Some have researched the value relevance of goodwill, such as the connection between goodwill and profit performance of companies (mm. Bugeja & Gallery, 2006; Hirschey & Richardson, 2002; McCarthy & Schneider, 1995; Vance, 2010). However, the changes in the value relevance of goodwill accounting after the adoption of IFRS have not been very widely studied in European context (see Hamberg & Beisland, 2014). Further, goodwill and its connection to the profit in the Finnish small business context have not been widely researched after the financial crisis and the adoption of the IFRSs, although Vallius (2014, 2016) noted that the absolute value of goodwill decreased from the year 2007 to 2012. However, we aim to study the connections between the amount of goodwill and financial statement fundamentals, such as profitability figures, and the ethical implications of the practices found.

Goodwill is the surplus price paid in relation to the fair market value of the net assets of an acquired company. In other words, it is the difference between the fair value of the purchased company and the fair value of the identifiable net assets. Thus, goodwill becomes an intangible asset in the parent company balance sheet after a purchase (acquisition) of another company (subsidiary). The purchase price paid (fair value) of the company may exceed the value of the purchased assets because of brand values, growth expectations, and synergies. (IAS 16; Seetharaman et al., 2004.)

Seetharaman et al. (2004) divide the accounting treatments for goodwill into three different schools of thoughts. According to the first one, goodwill should be written off against retained earnings right after the acquisition. The second school of thoughts demands, as does the current IAS/IFRS treatment, that goodwill should not be written off unless the impairment testing supports the impairment procedure. The third viewpoint represents the previously used goodwill accounting treatment in Finland, which required that goodwill should be amortised during a reasonable time. (Seetharaman et al., 2004.)

Bloom (2009), identified two different types of goodwill: internally generated and purchased goodwill. Under IFRS, the internally generated goodwill is not recognised. Bloom (2009) notes however that internally generated goodwill can represent up to 50 per cent of the value of some companies. IAS/IFRS denies the recognition of internally generated goodwill as an asset, because it is not an identifiable resource controlled by the company and it cannot be measured reliably (IAS 38.48-49).

Johnson & Petrone (1998) explain that goodwill can be con-

sidered from “top-down” and “bottom-up” perspectives. The former defines goodwill as a component or subset of something larger, i.e. future earnings from the business combination. Latter perspective determines goodwill as the premium paid over the book value of the net assets of the purchased company. According to the bottom-up perspective, the acquirer presumes to gain resources that have value through business combination in addition to the net identifiable assets of the purchased company, e.g. value through synergies not recognized by the acquiree (see Johnson & Petrone, 1998.)

Henning, Lewis & Shaw (2000) noted that the market mostly values the going concern component of goodwill (e.g. some asset may be used longer in the new company) as well as the synergy component of goodwill (e.g. asset being used better in the new company). Moreover, both components are significantly and positively related to the market value of a company. They also found that investors do not value the residual component of goodwill as an asset and will likely write off the portion of the residual during the year of the business combination. However, there are difficulties in measuring and recognising the gains and losses and in defining fair values of future cash flows, for example (Johnson & Petrone, 1998).

According to the IFRS 3, goodwill is defined as “An asset representing the future economic benefits arising from other assets acquired in a business combination that are not individually identified and separately recognised.” (IFRS 3, appendix A). Gynther (1969) noted that goodwill can be calculated as the sum of the intangible assets such as special skills, knowledge, high managerial ability, monopolistic situation, business connections, trade names and good reputation. The problem is that all these intangibles cannot be identified and their net values are disputable, even subject to moral hazards.

Goodwill accounting rules

According to Finnish accounting standards (FAS), goodwill is recognised and it should be amortised systematically over the 5-20 years period of time. After the year 2005, big or listed Finnish companies have followed the IAS/IFRS. Especially IFRS 3 Business Combinations standard establishes the principles and requirements of how to recognise and measure goodwill. Standard also demands that a company should account for business combinations by applying the acquisition method, which requires identifying the acquirer, determining the acquisition date, recognising and measuring the identifiable assets acquired, the liabilities assumed and any non-controlling interest in the acquire, and also recognising and measuring goodwill or a gain from a bargain purchase (IFRS 3.4-5).

Goodwill acquired in a business combination should be recognised as an asset in the balance sheet and tested annually and whenever there are indications for impairment (IFRS 36.10 & 36.90). The impairment testing typically reflects the development of goodwill better than straight-line depreciation (see Huikku & Silvola, 2012a; Ojala, 2007). However, the reliability of the impairment test may include uncertainty and depend on various risky considerations as well as traces of information beyond the organization (Huikku, Mouritsen and Silvola, 2017). The objective of the IFRS 3 is to ameliorate the relevance, reliability and comparability of the reported information arisen from business combinations (IFRS 3.1). If the acquirer makes a bargain purchase, where the acquired net of the acquisition date amounts of the identifiable assets and the liabilities assumed exceeds the purchase price, the acquirer should recognise the resulting gain in profit or loss on the acquisition date (IFRS

3.34). Goodwill resulted in bargain purchase is also called negative goodwill (Ma & Hopkins, 1988).

The IAS 36 standard about impairment of assets has the objective of ensuring that “-- assets are carried at no more than their recoverable amount” (IAS 36.1). An asset is impaired if its carrying amount exceeds its recoverable amount, which is either the asset’s fair value less costs to sell or its value in use if the latter is higher (IAS 36.8 & IAS 16.6). The value in use of an asset is the present value of the future cash flows expected to be derived from an asset, which also includes choosing the appropriate discount rate for the future cash flows (IAS 36.6 & 36.30). Goodwill should be allocated to the cash-generating units, because it does not generate cash flows independently of other assets or groups of assets and is often allocated to multiple cash-generating units (IAS 36.81).

Bloom (2009) noted that allocating goodwill to cash-generating units is ambiguous. Sometimes goodwill can be allocated to a group of cash-generating units but not to individual cash-generating unit (IAS 36.81). Also if the organisation changes the composition of the cash-generating units, goodwill should be reallocated to the new units (IAS 36.87). Huikku & Silvola (2012a) state that changes in organisation structure can result as an impairment loss. On the other hand, organisational changes can prevent impairment of assets (Huikku & Silvola, 2012a). This allow managerial influence in what is considered as the recoverable amount.

Factors affecting impairment testing include estimated future cash flows, their growth rate, discount rate and the definition of the cash-generating units (Huikku & Silvola, 2012a). Further, deciding a legitimate amount of impairment in the eyes of various stakeholders may require using external experts and negotiating with auditors (Huikku et al., 2017). An impairment loss should be allocated to the cash-generating unit and reduce the carrying amount of the assets in two phases. First, the impairment loss should reduce the carrying amount of any allocated goodwill to the cash-generating unit, and then affect other assets of the unit in proportion on the carrying amount of each asset in the unit. Declines in carrying amounts are treated as impairment losses on individual assets, and recognised instantly (IAS 36.104 & 36.60). However, investors tend to interpret goodwill impairment as a result of poor managerial decisions and overpriced acquisitions (Seetharaman et al., 2005).

The value relevance and ethics of goodwill

Value relevance can be defined as the association between accounting numbers and the market value of security (Barth et al., 2001). Many previous studies of goodwill are focused on determining the concept and the value relevance of goodwill (e.g. Bugeja & Gallery, 2006; Hirschey & Richardson, 2002; Jennings, Robinson, Thompson & Duvall, 1996; Lys, Vincent & Yehuda, 2012; Qureshi & Ashraf, 2013; Vance, 2010). The ethics come into play, when aims at increasing company market value are realized in misbehaviours in finance and accounting, such as through creative accounting and fraudulent corporate reporting (Melé et al., 2017). Further, focusing only on the behaviour of a manager, or a company, is not necessarily aligned with the wider ethical viewpoints and interests of the stakeholders or the society (see Melé et al., 2017; Windsor, 2006).

Indeed, ethical considerations have been divided into several traditions, such as utilitarian, Kantian or Rawlsian views as well as following rules (e.g. Melé et al., 2017; Windsor, 2006), although wider analysis of the theories of business ethics is beyond the scope of this paper. However, Melé et al. (2017)

highlight that being ethical is not just about following rules but about values and virtues. For example, Choi and Pae (2011) note that companies with a high ethical commitment exhibit better quality financial reporting, are engaged in less earnings management, report earnings more conservatively, and predict future cash flows more accurately than those with a lower level of ethical commitment.

McCarthy & Schneider (1995) investigated whether the US market perceives goodwill as an asset while defining the value of the company. They concluded that goodwill is perceived by the market with at least the equal value of other assets (McCarthy & Schneider, 1995). Also Jennings et al. (1996) noted that investors perceive recorded goodwill as a valuable economic resource. Jennings et al. (1996) concluded that the capitalisation of goodwill and the annual review is the best way to represent company’s resources and performance. Bugeja & Gallery (2006) investigated the value relevance of purchased goodwill and found that the value of a company is positively associated with purchased goodwill in the observation year. Thus, recently acquired goodwill is associated with the market value of a company, while older goodwill does not have future economic benefits according to market perception. The results of the Bugeja & Gallery (2006) are inconsistent with the current IAS/IFRS treatment. If recorded goodwill has no economic benefits after two years after the business combination, it should not be preserved in the balance sheet.

Hirschey & Richardson (2002) found negative stock price effects related to goodwill write-off announcements indicating that goodwill impairment may indicate for example bad decisions by the managers of purchasing company. Generally, Roll (1986) suggests that many acquisitions fail because the purchasing company managers have a whim or hubris to close the deal in order to grow or meet for example some bonus targets. In such case the purchasing company share prices are often expected to fall when an acquisition is declared (Roll 1986). However, the market reactions for acquisitions and especially to the goodwill are difficult to measure (see Lys et al., 2012; Vance, 2010). Vance (2010) found that most companies with high amount of goodwill performed at least as well as companies without goodwill. Furthermore, the rate of return on assets varied between different industries (Vance, 2010). Lys et al. (2012) suggest that companies with an expected economic loss from the business combination should write down the goodwill immediately because doubtful goodwill is typically not treated as an asset with value.

Hamberg & Beisland (2014) researched the value relevance of goodwill in Swedish context under IFRS 3. They found that goodwill as a percentage of equity has increased during the nine-year period. Further, they found that the size of goodwill impairments both in absolute value and in relation to book value decreased following the IFRS adoption. Furthermore, the goodwill impairments were not associated with stock returns after the change from Swedish GAAP to IFRS. Consequently, Hamberg & Beisland (2014) state that the introduction of the impairment-only standard may have had contradictory consequences in Europe and in the US. For example, Sahut et al. (2011) found that goodwill and other intangibles under IFRS are positively associated with share prices and with higher returns.

Data and methods

The data for the empirical illustration of this study was collected from the financial statements of the selected small listed

companies with the stock exchange data from the years 2007-2014 (from Nasdaq OMX database). The predictive power of earlier goodwill related events was measured by analysing the stock price change for year 2015. All the selected companies had goodwill in their balance sheets in 2007, so companies with no recognised goodwill were excluded from the study. Furthermore, one company was excluded because of insolvency and bankrupt in 2014. In addition, company called Stonesoft Oyj was removed from the NASDAQ OMX Nordic stock exchange. All the selected companies operate mainly in Finland and belong to the Small Cap segment of NASDAQ OMX Nordic. However, after 2007, Elektrobit Oyj has moved to the Mid Cap segment and Revenio Group Oyj has transferred to the Healthcare sector, but both companies are still included in the study. The sectors on which this study focuses on are Industrials and Technology. Altogether 24 companies met the criteria mentioned and their data were analysed in SPSS Statistics program, e.g. through correlations analysis. The final selection of companies and key fundamentals are presented in Appendix 1 (starting from p. 16).

For many Finnish companies, goodwill data is not found in public databases but need to be manually collected from the annual reports of the companies. Also notes to financial statements may be valuable sources of company data (Yritystutkimus 2011, 7). The financial statement analysis will include ratios based on both balance sheet and income statement reflecting profitability, liquidity and solvency of the selected companies as well as other fundamental performance issues (Lev & Thiagarajan, 1993). In this study, the fundamentals used are those available in the Finnish context. Threats to the validity of this empirical illustration include for example the relatively small sample size and the measurement of fundamentals. However, the small sample is not randomly selected, but is basically the full population of companies with capitalised goodwill, although few companies were excluded from the data. The financial statements of the twenty-four (24) companies will be analysed during the eight-year period of 2007-2014 during which the international standards. The fundamentals selected for analysis are found in Table 1.

Three of the fundamentals portray the amount of capitalised goodwill, e.g. in relation to total assets or net sales. Four fundamentals measure the liquidity, profitability and solvency of the company. Liquidity will be estimated by the Current Ratio (CR), which is a liquidity ratio measuring the company's abil-

ity to conduct short-term obligations. Profitability on the other hand measures the financial performance of a company and will be estimated by two fundamentals, which include Net Profit or Loss and Return on Equity (ROE). The solvency will be evaluated with the Equity Ratio, which measures the relationship between shareholder's equity and liabilities (Yritystutkimus 2011).

Results and analysis

If the market recognises capitalised goodwill as a risk, either from managerial and ethical point of view or economically, it should result as a connection with the stock beta (β). The following research hypothesis will be investigated:

Hypothesis: Goodwill increases corporate risk and is related to poor economic performance.

The average amount of goodwill calculated from the yearly averages of all the companies in 2007-2014 was 18.36 million euros. The yearly average decreased every year from the 20.78 million euros in 2007 to 15.14 million euros in 2014. The average amount of goodwill in 2014 was 27 per cent less than in the first year 2007. The smallest median was 8.62 million euros in 2013 and the second smallest was 8.70 million euros in the next year 2014. The largest median was 12.78 million euros in 2010 and second largest 11.32 million euros in the previous year 2009.

Kesla Oyj had the minimum amount of goodwill during the whole period, which remained the same in 2007-2013 and decreased to 280 thousands of euros in 2014. Digia Oyj had the largest capitalised goodwill in 2007-2008 and the amount was 86.93 million euros in the first year and 89.65 million euros in the following year. During the rest of the period in 2009-2014, Affecto Oyj had the largest amount of goodwill varying between 62.81 million euros to 74.65 million euros. Both Digia Oyj and Affecto Oyj operate in the technology sector.

The sum of companies' goodwill decreased 27 per cent from the 498.82 million euros in 2007 to 363.31 million in 2014. In other words, goodwill worth almost 140 million euros disappeared from the balance sheets during the eight-years. The majority of the companies had less goodwill in 2014 compared to the first year 2007. All in all, 67 per cent of the companies lost goodwill, while 29 per cent gained more and only four per cent had the same amount during the whole time period. The largest decrease in the value of goodwill was reported by Trainers'

Fundamental	Formula
Goodwill =	The amount of goodwill in the balance sheet
Goodwill divided by net sales =	$\frac{\text{The amount of goodwill in the balance sheet}}{\text{Net sales}}$
Goodwill divided by total assets =	$\frac{\text{The amount of goodwill in the balance sheet}}{\text{Total assets}}$
Current Ratio (CR) =	$\frac{\text{Current assets} - \text{Tax receivables}}{\text{Current liabilities}}$
Net Profit/Loss =	$\frac{\text{Result for the period}}{\text{Net sales}}$
Return on Equity (ROE) =	$\frac{\text{Operating profit +/- financing income/expenses} - \text{income tax}}{\text{Shareholder's equity}}$
Equity Ratio =	$\frac{\text{Shareholder's equity}}{\text{Total equity and liabilities}}$

Table 1. Selected fundamentals and their formulae

House Oyj, which lost the value by 97 per cent and from the 52.5 million euros in 2007 to the 1.7 million euros in 2014. Although this may seem an outlier in statistical sense, it is worth considering from the ethical point of view. Also seven other companies lost more than 40 per cent of the value of goodwill during 2007-2014, which include Cencorp Oyj, Comptel Oyj, Digia Oyj, Glaston Oyj Abp, Ixonos Oyj and Revenio Group Oyj. Companies losing great amounts of goodwill were from the both industrials and technology sectors and evident differences between the two sectors were unperceived.

An important fundamental was also the goodwill divided by net sales (GWNS), which illustrates the degree of goodwill in relation to the volume of net sales. The average of goodwill divided by net sales of all the companies decreased from the year 2007 to the year 2014 (Figure 1). On average 54 per cent of the companies had less than 20 per cent of goodwill in relation to net sales, while 46 per cent had more than 20 per cent from which three companies had more than 50 per cent of capitalised goodwill.

Figure 1. illustrates also the degree of goodwill in relation to the amount of total assets (GWTA) on average during the eight-year period. The GWTA per cent was during the whole period between 22-26 %, which was less volatile compared to GWNS. In the first year, the degree was less than in the last year 2014. The amount of goodwill in relation to total assets increased during the period, while the amount of goodwill in relation to net sales decreased from 2007 to 2014.

In addition to the analysis of the financial statements, the betas were calculated. The beta of a stock (BT, β) reflects the risk, particularly the sensitivity of stock price to the changes in market in the Capital Asset Pricing Model (CAPM, Sharpe, 1964). The betas (BT) were calculated for every year in 2007-2014. The market index used in the calculation was OMX Helsinki Small Cap GI. Majority of the companies had an average of the eight-year period BT value less than 1 (14 companies, see Table 2). Five of the companies had beta of 1, while five had value greater than 1 during the time period, i.e. as an average. A beta of less than one indicates that the investment is less volatile than the market but in case of small companies beta does not

necessarily portray risk in typical business risk sense but for example low trading. Cencorp Oyj had the greatest diversity in BT values, since in 2014 $BT = 6.1$ and in 2008 $BT = 0.8$. By contrast, Solteq Oyj had the lowest diversity in BT values. In 2013, Solteq Oyj had the value of $BT = 0.3$ and in 2011 the same value was $BT = 0.8$.

The correlations (Pearson's r) were calculated with SPSS for all of the fundamentals during the eight-year period. The variables representing goodwill included the amount of capitalised goodwill in balance sheet (GW), goodwill divided by net sales (GWNS) and goodwill divided by total assets (GWTA). The other variables included Current Ratio (CR) reflecting the liquidity, Net Profit or Loss (NPL) and Return on Equity (ROE) related to the profitability and Equity Ratio (ER) measuring the solvency of a company¹. Correlations were also calculated for the risk-factor beta (BT).

A negative correlation was found between the amount of capitalised goodwill and Current Ratio in the year 2008. The correlation coefficient was $r = -.417$ and the statistical significance was $p = .043$. Also a negative correlation between the variables goodwill divided by net sales and Current Ratio was found during the years 2008, 2012, 2013 and 2014. Correlation coefficient was between $r = -.410$ and $r = -.520$, while the statistical significance was between values of $p = .047$ and $p = .009$. Further, negative correlation was found between goodwill divided by total assets and Current Ratio. Correlation coefficient was between the values of $r = -.407$ and $r = -.667$ and the statistical significance was between the values of $p = .048$ and $p = .000$.

Regarding the stock price change or profitability goodwill did not have much predictive power, suggesting that performance and goodwill are not related. Considering the risk, measured with beta, a significant negative correlation was found between beta and stock price change ($-.504$, $p = 0.033$), suggesting that beta is not necessarily very good predictor for small companies with special items such as high goodwill.

¹ The following ROE fundamentals were replaced with the overall average of all other companies: Incap Oyj (2012), Vaahto Group Oyj (2012), Cencorp Oyj (2013 and 2014) and Ixonos Oyj (2014). This was necessary because of the negativity of the stockholders' equity, which would have resulted misleadingly as a high positive ratio.

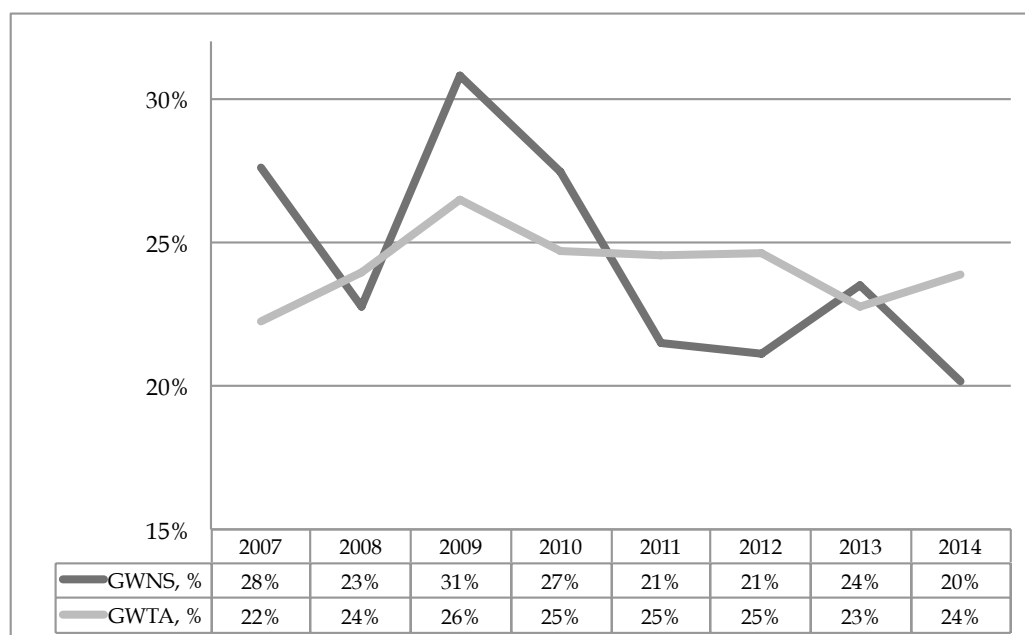


Figure 1. The percentage of goodwill to net sales and total assets

	Min BT	Max BT	Average BT
Affecto Oyj	0,4	1,1	0,8
Aspocomp Group Oyj	0,2	1,6	1,0
Cencorp Oyj	0,8	6,1	2,3
Componenta Oyj	0,3	1,6	1,0
Comptel Oyj	0,4	1,3	0,9
Digia Oyj	0,5	1,5	0,9
Dovre Group Oyj	0,4	1,1	0,8
Electrobit Oyj	0,6	2,3	1,4
Etteplan Oyj	0,3	1,3	0,8
Exel Composites Oyj	0,3	1,2	0,8
Glaston Oyj Abp	0,6	1,8	1,0
Incap Oyj	-0,6	1,1	0,7
Ixonos Oyj	0,9	1,8	1,3
Kesla Oyj	0,3	1,7	1,0
Neo Industrial Oyj	0,2	1,2	0,5
Revenio Group Oyj	0,7	1,9	1,2
Solteq Oyj	0,3	0,8	0,5
Tecnotree Oyj	0,5	1,9	1,1
Teleste Oyj	0,3	1,4	1,0
Trainers' House Oyj	-0,5	1,1	0,7
Tulikivi Oyj	0,1	1,2	0,8
Turvatiimi Oyj	-0,1	1,7	0,8
Vahto Group Oyj	0,0	1,0	0,3
Wulff-Yhtiöt Oyj	0,0	0,9	0,3

Table 2. The minimum, maximum and average values of beta during 2007-2014

A negative correlation was found between the goodwill divided by net sales and net profit or loss was found during 2007-2014. Correlation coefficient was between the values of $r=-.420$ and $r=-.828$, while statistical significance was between the values of $p=.041$ and $p=.000$. A negative correlation was found between goodwill divided by net sales and return on equity during 2007-2014. Correlation coefficient was between the values of $r=-.426$ and $r=-.861$, while statistical significance was between the values of $p=.038$ and $p=.000$.

During the year 2010 a weak negative correlation between the variables goodwill divided by net sales and equity ratio (ER) was found, while the correlation coefficient was $r=-.408$ and statistical significance was $p=.048$ (Table 3). Next a positive correlation between the variables goodwill divided by net sales and beta was found during the years 2013 and 2014 (see Table 3). Correlation coefficient was between the values $r=.475$ and $r=.600$, while the statistical significance was between the values of $p=.019$ and $p=.002$.

Conclusions

In this study, we examined the problems of goodwill accounting as a managerial issue from an ethical point of view, as well as analysed the changes in the volume of capitalised goodwill in the balance sheets of Finnish small or medium-sized listed companies. A hypothesis that goodwill increases risk and is related to poor economic performance, was created and analysed.

According to the small business financial statement analysis, the amount of companies with different amount of goodwill did not change significantly from 2007 to 2014. Majority of the companies had 0-30 million euros of goodwill during the whole period, while the average amount of the yearly averages was around 18 million euros. By contrast, the yearly average amount of goodwill was almost thirty per cent less in 2014 compared to the first year 2007, which was quite remarkable difference. In euros, almost 140 million worth of goodwill disappeared from

	ER_3
GWNS_4 Pearson Correlation	-.408 *
Sig. (2-tailed)	.048

	BT_6	BT_8
GWNS_7 Pearson Correlation	.574 **	.600 **
Sig. (2-tailed)	.003	.002
GWNS_8 Pearson Correlation	.507 *	.475 *
Sig. (2-tailed)	.012	.019

Table 3. Correlations between ER and GWNS, and BT and GWNS

the balance sheets during the eight-year period. In conclusion, the descriptive statistics showed that the amount of goodwill decreased substantially from 2007 to 2014. This supports the suggestions of Giacomino & Akers (2009), who stated that due to the poor economic situation the increasing trend of goodwill impairments would continue. Our results also suggest that not all acquisitions fail because of hubris (Roll, 1986) but the economic downturns and the situations of the small or medium-sized companies vary a lot.

The correlation analysis of the fundamentals resulted as negative correlation between CR and goodwill, and with negative correlation between NPL and goodwill. However, considering the key issues of economic performance, ROE and stock price changes, no significant correlation was found between goodwill and price change or goodwill and profitability. Yet, in the correlation analysis a strong relationship between goodwill and companies' liquidity and profitability was found. With the relations to goodwill, these correlations indicate that goodwill is partly related to the performance of a company, for example to low liquidity (CR). Vance (2010) has also studied whether goodwill contributes to performance and concluded that companies with capitalised goodwill have performed at least as well as companies without goodwill. By contrast, research results did not show strong relationship between solvency and goodwill.

However, the results supported the first part of our hypothesis: goodwill is connected to an elevated risk of a company. We found a strong positive correlation between goodwill and beta. Such result may reflect the riskiness and possible ethical concerns related to acquisitions and management decisions involving combinations of businesses. In small business acquisitions there can be ethical and managerial aspects, misrepresentations and creative accounting, hubris etc., and unintended changes in company risk. Such ethical aspects may surprise the owners and affect managerial practices, with a possible effect on the company performance. However, if a wider ethical view is selected (see e.g. Melé et al., 2017; Windsor, 2006), accounting decisions may sometimes affect also other stakeholders, such as employees and auditors, and even society, considering for example tax aspects, possibly elevated bankruptcy risks or the long-term benefits of mergers and acquisitions.

Huikka et al. (2017) found that sometimes the amount of impairment may be a result of negotiations with valuation experts and auditors. We suggest that such experts and auditors might be vulnerable to lawsuits if the amount of impairment proves to be "wrong", even if there is no absolute truth but just several ethical and moral considerations of the truth. Further, considering that beta indicates operational risk, we argue that high goodwill increases the small company risks. This suggests that the risks, and the ethical considerations of goodwill in small company management, investing, analysis, research or

in auditing should not be underestimated. Further, our study contributes to earlier knowledge by clarifying the risks associated with goodwill impairments, and with professional auditing work (see Huikku et al., 2017).

Our results indicated a connection between goodwill and risk, but the linkage between capitalised goodwill and future stock exchange price, i.e. the value relevance of goodwill data, is not clear. However, the results of this study could be helpful for investors, analysts and financiers, when evaluating small companies and goodwill in their balance sheets. This adds to our understanding of the potential manipulative practices in goodwill accounting and ethical accounting research (see Melé et al., 2017; Choi and Pae, 2011). Further, our analysis points to the importance of ethical issues also in accounting education (see Choi and Pae, 2011; Fischer and Rosenzweig, 1995).

All in all, evidence was found supporting the relation be-

tween goodwill and company performance in small business context, but further research is needed to enlighten the ethical and managerial issues related to acquisitions. For example, the components of goodwill, such as “going concern” element, synergies or control (see IFRS 3; Johnson & Petrone, 1998), might be interesting areas for further research. For instance, case studies might provide broader knowledge of the ethical concerns of the managerial choices in goodwill accounting, especially if using a critical approach or if comparing the utilitarian, Kantian and Rawlsian views on decisions related to goodwill.

Acknowledgements

The authors thank the anonymous reviewer and Sampo Pesonen for helpful comments.

References

- Ahrens, T. & Dent, J. (1998), Accounting and Organizations: Realizing the Richness of Field Research. *Journal of Management Accounting Research*, Vol. 10, 1-39.
- Barth, M., Beaver, W. & Landsman, W. (2001), The relevance of the value relevance literature for financial accounting standard setting: another view. *Journal of Accounting and Economics*, Vol. 31 No. 1-3, pp. 77-104.
- Bloom, M. (2009), Accounting For Goodwill. *Abacus*, Vol. 45 No. 3, pp. 379-89.
- Bugeja, M. & Gallery, N. (2006), Is older goodwill value relevant? *Accounting and Finance*, Vol. 46, 519-35.
- Choi, T. H., & Pae, J. (2011), Business ethics and financial reporting quality: Evidence from Korea. *Journal of Business Ethics*, Vol. 103 No. 3, pp. 403-27.
- Deloitte. (2015), Yrityskauppabarometri Q1 2015 [WWW document]. http://www2.deloitte.com/content/dam/Deloitte/fi/Documents/finance/Yrityskauppabarometri_Q1_2015.pdf 21.2.2015.
- Duff & Phelps. (2014), European Goodwill Impairment Study <http://www.duffandphelps.com/Pages/newsDetail.aspx?itemid=828&list=News> 5.11.2014.
- Fischer, M., & Rosenzweig, K. (1995), Attitudes of students and accounting practitioners concerning the ethical acceptability of earnings management. *Journal of Business Ethics*, Vol. 14 No. 6, pp. 433-44.
- Gore, R. & Zimmerman, D. (2010), Is Goodwill an Asset? *CPA Journal*, Vol. 80 No. 6, pp. 46-48.
- Gynther, R. (1969), Some “conceptualizing” on goodwill. *The Accounting Review*, Vol. 44 No. 2, pp. 247-55.
- Hamberg, M. & Beisland, L-A. (2014), Changes in the value relevance of goodwill accounting following the adoption of IFRS 3. *Journal of International Accounting, Auditing and Taxation*, Vol. 23, pp. 59-73.
- Henning, S., Lewis, B. & Shaw, W. (2000), Valuation of the components of purchased goodwill. *Journal of Accounting Research*, Vol. 38 No. 2, pp. 375–86.
- Hirschey, M., & Richardson, V. (2002), Information content of accounting goodwill numbers. *Journal of Accounting and Public Policy*, Vol. 21, pp. 173–91.
- Huikku, J., Mouritsen, J., & Silvola, H. (2017), Relative reliability and the recognisable firm: Calculating goodwill impairment value. *Accounting, Organizations and Society*, Vol. 56, pp. 68-83.
- Huikku, J. & Silvola, H. (2012a), Miksi liikearvon arvonalentumiskirjauksia ei tule? *Tilintarkastus*, Vol. 56 No. 1, pp. 10-13.
- Huikku, J. & Silvola, H. (2012b), Liikearvon arvonalentumistestaus – voiko lukuihin luottaa? *Tilintarkastus*, Vol. 56, No. 2, pp. 11-13.
- IAS 16, 36 & 38, IFRS 3 & 8. (2014), 2014 International Financial Reporting Standards IFRS (Blue Book & Red Book).
- Jennings, R., Robinson, J., Thompson, R. & Duvall, L. (1996), The relation between accounting goodwill numbers and equity values. *Journal of Business Finance and Accounting*, Vol. 23, 513–533.
- Johnson, T. & Petrone, K. (1998), Is goodwill an asset? *Accounting Horizons*, Vol. 12 No. 3, pp. 293-303.
- Lev, B. & Thiagarajan S. R. (1993), Fundamental Information Analysis. *Journal of Accounting Research*, Vol. 31 No. 2, pp. 190-215.
- Lys, T., Vincent, L. & Yehuda, N. (2012), The Nature and Implications of Acquisition Goodwill. SSRN Working Paper Series, March 2012. <http://dx.doi.org.ezproxy.jyu.fi/10.2139/ssrn.1802612>
- Ma, R. & Hopkins, R. (1988), Goodwill – An Example of Puzzle-Solving in Accounting. *Abacus*, Vol. 24 No. 1, pp. 75-85.
- McCarthy, M. & Schneider, D. (1995), Market perception of goodwill: some empirical evidence. *Accounting and Business Research*, Vol. 26, pp. 69–81.
- Melé, D., Rosanas, J. M., & Fontrodona, J. (2017). Ethics in finance and accounting: Editorial introduction. *Journal of Business Ethics*, Vol. 140 No. 4, pp. 609-13.
- Owens, R. N. (1923), Goodwill in the Accounts. *The University Journal of Business*, Vol. 1 No. 3, pp. 282-99.
- Ojala, H. (2007), Does the reporting of goodwill impairment lag behind the economic impairment of goodwill under the impairment-only approach? *Essays on the value relevance of goodwill accounting*. Helsinki: Helsinki School of Economics.
- PwC. (2012), 29.10.2012. Euroopan yritysjärjestelyiden määrä nousussa ensimmäistä kertaa kahteen vuoteen. [WWW document]. <http://www.pwc.fi/fi/tiedotteet-2012/index.jhtml>
- Roll, R. (1986), The hubris hypothesis of corporate takeovers. *Journal of Business*, Vol. 59 No. 2, Part 1, pp. 197-216.
- Sahut, J-M., Boulerne, S. & Teulon, F. (2011), Do IFRS provide better information about intangibles in Europe? *Review of Accounting and Finance*, Vol. 10 No. 3, pp. 267-90.
- Seetharaman, A., Balanchandran, M. & Saravanan, A. (2004), Accounting Treatment of Goodwill: Yesterday, Today and Tomorrow. *Problems and Prospects in the International*

- Perspective. *Journal of Intellectual Capital*, Vol. 5 No. 1, pp. 131-52.
- Seetharaman, A., Sreenivasan, J., Sudha, R. & Ya Yee, T. (2005), Managing impairment of goodwill. *Journal of Intellectual Capital*, Vol. 7 No. 3, pp. 338-53.
- Sharpe, W. F. (1964), Capital asset prices: A theory of market equilibrium under conditions of risk. *The Journal of Finance*, Vol. 19 No. 3, pp. 425-42.
- Vallius, S. (2014), Liikearvon arvoa etsimässä – Liikearvon määrä ja arvonalentumiset sekä tulosekehitys pienteollisuustuotteet ja palvelut –yrityksissä sekä teknologiayrityksissä vuosina 2007-2012. Kandidaatintutkielma. Jyväskylän yliopiston kauppakorkeakoulu.
- Vallius, S. (2016), Goodwill impairments and the value relevance of goodwill of the small listed companies in Finland. Pro gradu -tutkielma. Jyväskylän yliopiston kauppakorkeakoulu.
- Vance, D. (2010), Return On Goodwill. *The Journal of Applied Business Research*, Vol. 26 No. 2, pp. 93-103.
- Virtanen, A. (2009), Revealing financial accounting in Finland under five historical themes. *Accounting History*, Vol. 14 No. 4, pp. 357-79.
- Windsor, D. (2006), Corporate social responsibility: Three key approaches. *Journal of Management Studies*, Vol. 43 No. 1, pp. 93-114.
- Qureshi, M. & Ashraf, D. (2013), Is goodwill capitalisation value relevant? Some UK evidence. *Accounting, Accountability & Performance*, Vol. 18 No. 1, pp. 19-34.
- Yritystutkimus ry. (2011), Yritystutkimuksen tilinpäätösanalyysi. Gaudeamus Helsinki University Press. Helsinki: Hakapaino Oy.

Authors

Suvi Vallius, MSc. (Econ), Founder and CEO, Vallius Financial Management.

Aila Virtanen, Professor in accounting, University of Jyväskylä, School of Business and Economics.

Antti Rautiainen, Associate professor in accounting, corresponding author, antti.i.rautiainen@jyu.fi, University of Jyväskylä, School of Business and Economics.

Marko Järvenpää, Professor in accounting, University of Vaasa.

APPENDIX 1

GW = The amount of capitalised goodwill

Company	2007	2008	2009	2010	2011	2012	2013	2014
Affecto Oyj	84,196	72,614	69,415	72,866	73,102	74,651	72,166	62,814
Aspocomp Group Oyj	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
Cencorp Oyj	2,028	2,028	2,966	2,967	2,967	2,967	2,538	0,441
Componenta Oyj	40,800	31,700	31,500	33,100	28,000	29,100	29,100	29,100
Comptel Oyj	10,832	19,027	19,355	19,626	10,832	2,646	2,646	2,646
Digia Oyj	86,932	89,649	65,545	65,545	44,543	51,105	44,550	44,550
Dovre Group Oyj	6,747	5,857	7,022	7,446	7,491	7,803	6,972	6,645
Elektrobit Oyj	19,597	18,258	18,503	18,519	19,264	19,295	19,319	19,343
Etteplan Oyj	29,426	33,207	31,184	36,028	36,331	39,930	39,131	38,642
Exel Composites Oyj	9,627	8,362	2,460	2,426	11,939	10,898	9,393	9,676
Glaston Oyj Abp	67,641	66,183	58,403	52,598	52,601	36,843	36,843	36,843
Incap Oyj	1,326	0,969	0,977	1,040	0,964	0,940	0,866	0,910
Ixonos Oyj	21,067	32,195	22,826	23,647	23,647	12,447	10,847	10,847
Kesla Oyj	0,360	0,360	0,360	0,360	0,360	0,360	0,360	0,280
Neo Industrial Oyj	4,527	4,587	3,520	3,624	3,477	3,484	3,252	3,252
Revenio Group Oyj	11,355	9,421	9,145	8,230	8,118	8,118	6,966	1,191
Solteq Oyj	8,086	8,286	8,286	6,199	6,199	12,728	12,730	12,730
Tecnotree Oyj	0,682	0,682	19,591	21,608	19,192	17,420	15,266	16,642
Teleste Oyj	12,686	13,865	31,657	30,959	31,277	31,350	33,252	33,121
Trainers' House Oyj	52,467	51,772	50,968	25,806	9,135	9,135	4,614	1,653
Tulikivi Oyj	4,266	4,266	4,174	4,174	4,174	4,174	4,174	4,174
Turvatiimi Oyj	12,261	11,973	11,973	16,054	16,054	15,493	15,493	15,493
Vaaho Group Oyj	1,702	1,702	1,702	1,702	1,702	1,692	1,692	1,583
Wulff-Yhtiöt Oyj	7,204	8,356	10,658	9,501	9,467	9,546	7,845	7,730

GWNS = Goodwill divided by net sales

Company	2007	2008	2009	2010	2011	2012	2013	2014
Affecto Oyj	0,864	0,552	0,674	0,639	0,574	0,560	0,543	0,512
Aspocomp Group Oyj	0,116	0,145	0,228	0,160	0,127	0,128	0,155	0,143
Cencorp Oyj	0,100	0,130	0,486	0,232	0,137	0,192	0,766	0,524
Componenta Oyj	0,064	0,047	0,105	0,073	0,049	0,053	0,057	0,059
Comptel Oyj	0,131	0,224	0,258	0,252	0,141	0,032	0,032	0,031
Digia Oyj	0,821	0,728	0,545	0,501	0,365	0,509	0,447	0,457
Dovre Group Oyj	0,132	0,094	0,116	0,105	0,102	0,083	0,071	0,067
Elektrobit Oyj	0,136	0,106	0,120	0,114	0,130	0,104	0,097	0,086
Etteplan Oyj	0,235	0,205	0,316	0,344	0,304	0,297	0,304	0,293
Exel Composites Oyj	0,085	0,088	0,035	0,033	0,140	0,143	0,136	0,122
Glaston Oyj Abp	0,251	0,245	0,385	0,352	0,439	0,319	0,301	0,296
Incap Oyj	0,016	0,010	0,014	0,018	0,014	0,015	0,034	0,049
Ixonos Oyj	0,356	0,429	0,340	0,278	0,290	0,219	0,325	0,453
Kesla Oyj	0,008	0,007	0,014	0,011	0,008	0,009	0,008	0,006
Neo Industrial Oyj	0,072	0,039	0,051	0,043	0,034	0,033	0,039	0,041
Revenio Group Oyj	0,460	0,209	0,305	0,280	0,378	0,320	0,516	0,074
Solteq Oyj	0,290	0,273	0,290	0,230	0,228	0,326	0,334	0,311
Tecnotree Oyj	0,010	0,009	0,368	0,356	0,308	0,237	0,207	0,225
Teleste Oyj	0,101	0,128	0,223	0,184	0,170	0,162	0,172	0,168
Trainers' House Oyj	1,750	1,170	1,844	1,657	0,583	0,687	0,456	0,207
Tulikivi Oyj	0,061	0,064	0,079	0,075	0,071	0,082	0,095	0,106
Turvatiimi Oyj	0,453	0,434	0,438	0,496	0,407	0,407	0,409	0,425
Vaaho Group Oyj	0,019	0,023	0,022	0,048	0,056	0,041	0,053	0,078
Wulff-Yhtiöt Oyj	0,097	0,110	0,143	0,102	0,096	0,106	0,094	0,104

GWTA = Goodwill divided by total assets

Company	2007	2008	2009	2010	2011	2012	2013	2014
Affecto Oyj	0,520	0,495	0,509	0,510	0,504	0,505	0,004	0,503
Aspocomp Group Oyj	0,043	0,086	0,096	0,089	0,183	0,153	0,168	0,201
Cencorp Oyj	0,116	0,171	0,287	0,073	0,086	0,159	0,137	0,096
Componenta Oyj	0,082	0,070	0,081	0,079	0,064	0,063	0,064	0,062
Comptel Oyj	0,147	0,229	0,234	0,257	0,151	0,039	0,039	0,034
Digia Oyj	0,581	0,584	0,581	0,568	0,507	0,553	0,535	0,554
Dovre Group Oyj	0,218	0,220	0,235	0,242	0,222	0,193	0,171	0,187
Elektrobit Oyj	0,083	0,101	0,116	0,148	0,167	0,135	0,134	0,116
Etteplan Oyj	0,406	0,421	0,505	0,533	0,554	0,523	0,525	0,512
Exel Composites Oyj	0,128	0,141	0,043	0,043	0,209	0,212	0,194	0,185
Glaston Oyj Abp	0,245	0,231	0,258	0,270	0,281	0,233	0,293	0,286
Incap Oyj	0,024	0,020	0,025	0,024	0,025	0,032	0,055	0,063
Ixonos Oyj	0,451	0,513	0,438	0,417	0,446	0,373	0,420	0,495
Kesla Oyj	0,012	0,011	0,014	0,013	0,012	0,013	0,010	0,008
Neo Industrial Oyj	0,043	0,043	0,037	0,034	0,036	0,055	0,069	0,073
Revenio Group Oyj	0,318	0,326	0,344	0,336	0,328	0,325	0,307	0,062
Solteq Oyj	0,367	0,376	0,392	0,360	0,357	0,470	0,501	0,508
Tecnotree Oyj	0,007	0,006	0,165	0,197	0,192	0,213	0,213	0,222
Teleste Oyj	0,163	0,184	0,288	0,266	0,235	0,261	0,267	0,250
Trainers' House Oyj	0,466	0,543	0,660	0,491	0,294	0,343	0,238	0,129
Tulikivi Oyj	0,068	0,065	0,069	0,070	0,074	0,081	0,076	0,088
Turvatiimi Oyj	0,648	0,660	0,706	0,650	0,703	0,698	0,737	0,746
Vaaho Group Oyj	0,033	0,041	0,034	0,044	0,047	0,056	0,072	0,119
Wulff-Yhtiöt Oyj	0,170	0,212	0,233	0,206	0,213	0,230	0,223	0,222

CR = Current Ratio

Company	2007	2008	2009	2010	2011	2012	2013	2014
Affecto Oyj	1,080	1,333	1,236	1,130	1,172	1,232	1,238	1,281
Aspocomp Group Oyj	0,814	1,957	1,498	1,109	1,818	1,862	2,299	1,840
Cencorp Oyj	1,515	1,023	1,232	1,126	0,705	0,504	0,292	0,159
Componenta Oyj	0,757	1,013	0,708	0,943	0,503	0,771	0,294	0,365
Comptel Oyj	2,806	1,921	1,604	2,141	2,159	1,414	1,342	1,298
Digia Oyj	1,896	0,581	1,114	1,248	1,113	0,854	0,864	0,783
Dovre Group Oyj	1,479	1,454	1,410	1,761	1,924	1,774	2,079	1,871
Elektrobit Oyj	2,601	2,927	2,584	1,862	1,721	1,266	1,372	1,518
Etteplan Oyj	1,271	0,969	0,837	0,893	0,792	0,806	0,768	0,769
Exel Composites Oyj	1,579	1,679	2,139	2,318	2,426	2,511	1,157	1,704
Glaston Oyj Abp	1,291	1,150	0,888	0,721	1,022	0,571	1,116	1,070
Incap Oyj	1,438	1,378	1,050	1,029	0,733	0,764	0,912	0,852
Ixonos Oyj	1,075	0,761	0,891	1,135	1,080	0,496	0,313	0,216
Kesla Oyj	2,495	2,492	2,267	2,071	2,093	1,979	1,800	1,991
Neo Industrial Oyj	3,395	1,938	1,887	1,084	0,702	0,874	1,008	0,984
Revenio Group Oyj	1,164	1,359	1,287	1,265	1,741	1,714	1,831	3,098
Solteq Oyj	0,688	0,942	1,098	0,607	0,660	0,829	0,763	0,768
Tecnotree Oyj	5,092	2,960	3,195	3,107	1,808	1,186	1,932	0,936
Teleste Oyj	1,796	1,821	1,368	1,410	1,413	1,260	1,362	1,414
Trainers' House Oyj	2,729	1,469	1,002	0,822	1,539	1,146	1,384	0,966
Tulikivi Oyj	1,590	2,019	1,879	1,847	1,455	1,702	1,840	1,597
Turvatiimi Oyj	0,352	0,481	0,349	0,425	0,381	0,354	0,280	0,293
Vaaho Group Oyj	1,136	1,098	0,910	0,823	0,890	0,561	0,785	0,338
Wulff-Yhtiöt Oyj	2,133	2,123	1,594	1,495	1,492	1,490	1,295	1,253

NPL = Net Profit or Loss

Company	2007	2008	2009	2010	2011	2012	2013	2014
Affecto Oyj	0,072	0,065	-0,069	0,008	0,042	0,057	0,042	-0,013
Aspocomp Group Oyj	-2,493	0,016	-0,190	0,036	0,307	0,164	-0,092	-0,095
Cencorp Oyj	-0,195	-0,294	-0,828	-0,272	-0,348	-0,865	-2,114	-14,750
Componenta Oyj	0,034	0,020	-0,096	-0,017	-0,005	-0,044	-0,030	-0,058
Comptel Oyj	0,132	0,078	-0,029	0,060	0,095	-0,155	0,031	0,064
Digia Oyj	0,055	0,060	-0,114	0,088	-0,184	0,040	-0,041	0,029
Dovre Group Oyj	-0,023	-0,002	-0,012	0,033	0,044	0,030	0,036	0,003
Elektrobit Oyj	-0,048	-0,287	-0,013	-0,097	-0,034	0,018	0,155	0,056
Etteplan Oyj	0,067	0,050	-0,033	0,041	0,039	0,042	0,034	0,047
Exel Composites Oyj	0,018	-0,031	0,085	0,093	0,093	0,027	0,044	0,072
Glaston Oyj Abp	0,026	-0,034	-0,353	-0,214	-0,137	-0,158	0,011	0,009
Incap Oyj	-0,013	-0,058	-0,096	-0,083	-0,057	-0,077	-0,331	0,030
Ixonos Oyj	0,053	0,047	-0,089	0,038	0,011	-0,387	-0,372	-0,345
Kesla Oyj	0,075	0,041	-0,064	0,044	0,044	0,003	0,019	0,003
Neo Industrial Oyj	0,018	-0,042	-0,056	-0,127	-0,061	-0,056	-0,014	0,022
Revenio Group Oyj	0,230	0,059	-0,027	-0,017	0,099	0,180	0,321	-0,043
Solteq Oyj	0,040	0,029	0,033	-0,137	0,033	0,043	0,043	0,046
Tecnotree Oyj	0,124	0,132	-0,304	-0,181	-0,250	-0,232	-0,034	-0,126
Teleste Oyj	0,075	0,051	0,003	0,029	0,034	0,035	0,042	0,043
Trainers' House Oyj	0,161	0,031	-0,254	-1,041	-1,173	-0,018	-0,471	-0,715
Tulikivi Oyj	0,005	0,021	-0,044	-0,015	-0,041	-0,012	-0,101	-0,067
Turvatiimi Oyj	-0,138	-0,148	-0,046	-0,132	-0,036	-0,101	-0,029	-0,035
Vaaho Group Oyj	0,044	0,004	-0,034	-0,086	-0,135	-0,204	-0,127	-0,163
Wulff-Yhtiöt Oyj	0,043	0,010	-0,009	-0,004	0,008	0,010	-0,047	0,008

ROE = Return on Equity

Company	2007	2008	2009	2010	2011	2012	2013	2014
Affecto Oyj	0,111	0,145	-0,133	0,017	0,088	0,113	0,083	-0,026
Aspocomp Group Oyj	-3,405	-0,262	-0,080	0,188	0,717	0,268	-0,141	-0,187
Cencorp Oyj	-1,656	-2,407	-1,873	-0,165	-0,275	-1,010	-0,904	-0,114
Componenta Oyj	0,215	0,188	-0,423	-0,106	-0,075	-0,288	-0,183	-0,257
Comptel Oyj	0,206	0,126	-0,047	0,089	0,179	-0,485	0,104	0,162
Digia Oyj	0,086	0,103	-0,235	0,170	-0,565	0,096	-0,113	0,078
Dovre Group Oyj	-0,075	0,010	-0,055	0,139	0,137	0,103	0,060	0,038
Elektrobit Oyj	-0,121	-0,432	-0,030	-0,216	-0,098	0,030	0,081	0,131
Etteplan Oyj	0,285	0,302	-0,133	0,158	0,227	0,231	0,174	0,214
Exel Composites Oyj	0,085	-0,176	0,232	0,208	0,226	0,065	0,250	0,192
Glaston Oyj Abp	0,050	-0,075	-0,773	-0,810	-0,308	-0,590	0,025	0,022
Incap Oyj	-0,058	-0,409	-1,043	-0,870	-3,049	-0,247	-16,490	0,106
Ixonos Oyj	0,146	0,140	-0,312	0,114	0,032	-2,934	-3,388	-0,114
Kesla Oyj	0,075	0,041	-0,158	0,122	0,149	0,010	0,065	0,011
Neo Industrial Oyj	0,020	-0,082	-0,081	-0,273	-0,507	-0,688	-0,158	0,190
Revenio Group Oyj	0,312	0,151	-0,052	-0,037	0,129	0,311	0,197	0,310
Solteq Oyj	0,115	0,090	0,094	-0,705	0,151	0,168	0,149	0,162
Tecnotree Oyj	0,112	0,122	-0,210	-0,152	-0,315	-0,492	-0,115	-0,551
Teleste Oyj	0,201	0,119	0,021	0,095	0,114	0,111	0,124	0,120
Trainers' House Oyj	0,079	0,022	-0,137	-0,462	-1,105	-0,015	-0,702	-2,861
Tulikivi Oyj	0,013	0,052	-0,044	-0,015	-0,289	-0,071	-0,211	-0,147
Turvatiimi Oyj	-0,890	-0,471	-0,171	-0,539	-0,190	-0,423	-0,156	-0,224
Vaaho Group Oyj	0,262	0,022	-0,034	-0,086	-0,708	-0,247	-0,138	-0,041
Wulff-Yhtiöt Oyj	0,155	0,038	-0,036	-0,025	0,048	0,050	-0,304	0,044