EU SUSTAINABILITY DIRECTIVE AND CORPORATE GOVERNANCE: IMPLICATIONS FOR 15 OF THE LARGEST EU COMPANIES

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Abstract

This paper analyzes 15 of the largest EU public companies, including Volkswagen, that were included in Forbes' 2015 list of "The World's Biggest Public Companies" in order to investigate possible best practices for long-term sustainability, as emphasized by the EU Sustainability Directive. CEO pay and various well-known financial ratios were correlated with market capitalization creation to create a sustainability score which was then correlated to market cap creation to indicate possible long-term sustainability practices. Key correlations were CEO pay, sales growth, profit margin, and leverage or adequacy of capital. Such key variables could then be monitored for possible long-term sustainability practices by Boards of Directors for good corporate governance, as opposed to recent bad corporate governance by Volkswagen. In just the last year, Volkswagen managed to destroy all the prior three years of its market cap creation.

Keywords: Sustainability; Corporate Governance; Market Capitalization

1. INTRODUCTION

There is a new proposal from the European Commission for a Directive of the European Parliament and of the Council, COM (2014) 213 final to amend two existing Directives. The first is Directive 2007/36/EC regarding the encouragement of long-term shareholder engagement. The second is Directive 2013/34/EU, and the proposal relates to certain elements of its corporate governance statement: "The overarching objective of this current proposal to revise the Shareholder Rights Directive is to contribute to the long-term sustainability of EU companies, to create an attractive environment for shareholders and to enhance cross-border voting by improving the efficiency of the equity investment chain in order to contribute to growth, jobs creation and EU competitiveness. It also delivers on the commitment of the renewed strategy on the long-term financing for the European economy; it contributes to a more long-term perspective of shareholders which ensures better operating conditions for listed companies" (EC, 2014).

This new proposal then focuses upon five more specific objectives:

1. Increase the level and quality of engagement of asset owners and asset managers with their investee companies;
2. Create a better link between pay and performance of company directors;
3. Enhance transparency and shareholder oversight on related party transactions;
4. Ensure reliability and quality of advice of proxy advisors; and
5. Facilitate transmission of cross-border information (including voting) across the investment chain, in particular through shareholder identification.

This proposal states that it is consistent with the existing regulatory framework and specifically mentions the Capital Requirements Directive and Regulation (CRD IV package, Directive 2013/36/EU and Regulation (EU) No. 575/2013. This existing Directive addresses "excessive risk taking by further strengthening the requirements for the relationship between the variable (or bonus) component of remuneration and the fixed component (or salary)." When this proposal was adopted, the European Commission also adopted a recommendation on the quality of corporate governance reporting ("Comply or Explain"). Thus, "the EU corporate governance framework is above all based on the comply or explain approach which allows Member States and companies to create a framework that is in line with their culture, traditions and needs" (EC, 2014). This proposed EU action focuses upon appropriate standards ensuring a well-functioning corporate governance of EU listed companies with a view to

their long-term sustainability. This focus is critical since non-national shareholders hold 44% of the shares in EU listed companies. Most of these investors are institutional investors and asset managers (Bohinc, 2015).

2. RESEARCH FOCUS OF THIS PAPER

This paper analyzes 15 of the largest EU public companies that were included in Forbes' 2015 list of "The World's Biggest Public Companies" in order to investigate possible best practices for long-term sustainability, as emphasized by these EU Directives. As a starting point, Chief Executive Officer (CEO) pay is correlated to market capitalization creation over the last 3 years (May 2012 to May 2015) for these 15 EU listed companies. This analysis addresses the ongoing issue of CEO pay in public companies, and thus, refocuses the specific EU objective of "linking pay to performance of company directors" to CEOs. The results are shown in Table 1. A similar market cap creation analysis could be done using directors' pay as well. Then, in Table 2, various well-known financial ratios are also individually correlated with market cap creation to create a sustainability score which is then correlated to market cap creation to indicate possible long-term sustainability practices by these 15 large EU public companies. This sustainability analysis is in contrast to such financial ratios indicating "red flags" for possible fraudulent financial reporting (Grove and Clouse, 2014). Also, corporate governance issues, concerning Board of Directors' compensation committees, independence, entrenchment, and CEO duality, are investigated in this paper.

In Table 3, the market cap creations of these 15 EU companies are compared to the performance of their stock exchanges over the same 3 year period to calculate performance gaps which show how much of the market cap increases for the 15 EU companies was just "good luck" or favorable timing of the stock exchanges going up in market value. Conversely, these performance gaps can also be negative, showing the companies that lagged the stock exchange increases. Only 5 of the 15 companies, including Volkswagen, outperformed their stock exchanges over this 3 year period. In Table 4, the companies are further analyzed for correlations with possible long-term sustainability. All these correlations can then be used to signal benchmarking studies to analyze specific business strategies and operations for best sustainability practices of these 15 EU public companies, as well as possible best practices for compensation committees of Boards of Directors. Also, lessons can be learned from the Volkswagen diesel emissions scandal in applying the EU corporate governance recommendation to "comply or explain." In just the past year, Volkswagen has destroyed its entire prior 3 year market capitalization creation of over $43 billion as shown in Table 1. The results and implications of these 4 tables will be discussed later in this paper.

3. BOARD COMPENSATION COMMITTEES AND EXECUTIVE PAY

One of the major responsibilities of a company's Board of Directors is to determine the compensation of the company's CEO. The recommendation usually comes from the Board's compensation committee. The compensation package for a CEO can consist of a base salary, incentive pay frequently in the form of shares of stock and stock options, and a severance package that may include a golden parachute. There have been many examples of CEO compensation levels that have called into question as to why the Board compensation committee chose to give such large amounts, especially in two recent time periods. During the stock market decline of the early 2000s, the CEOs of Merrill Lynch and Citigroup were fired because their companies were posting losses in the billions of dollars. However, both were given golden parachutes of over $100 million each. During the financial crisis of 2008-2009, many U.S. financial companies lost billions of dollars, and some had to be bailed out by the U.S. government. However, there were many examples of these companies' CEOs still receiving high levels of compensation, including bonuses. These examples, as well as many others, have resulted in many stockholders, regulators, and legislators questioning whether Boards of Directors are acting in the best interest of shareholders when they are making the CEO compensation decision.

For example, a recent research study (Cooper, Gulen, and Rau, 2013) challenged the past two decades of academic research that argued CEO compensation should be aligned to firm performance. Such previous studies used small sample sizes in comparison to this new study. The authors of this new study also challenged recent regulatory proposals that have argued for more long-term compensation which implies a positive relation between incentive pay and future stock returns.

These authors have defined excess CEO pay as incentive compensation which includes restricted stock grants, option grants, long-term incentive payouts, and other annual noncash compensation. The companies in their study were the S&P 1500 firms or all NYSE, AMEX, and NASDAQ firms jointly listed on the Compustat Execucomp Database from 1994 to 2010 and on the CRSP files of stock returns from 1994 to 2011, a much longer time period than previous studies. Total median CEO pay consisted of 48% cash compensation (salary and bonus) and 52% incentive (excess) compensation for these companies. They sorted firms annually by industry and size to create CEO excess compensation deciles and found a strong negative relation between annual excess pay and future abnormal returns. In the year after the firms were classified into the lowest and highest excess compensation deciles respectively, firms in the highest total excess compensation decile earned significant, negative abnormal returns.

They summarized the research findings: "We find evidence that CEO pay is negatively related to future stock returns for periods up to three years after sorting on excess pay. For example, firms that pay their CEOs in the top ten percent of excess pay earn negative abnormal returns over the next three years of approximately 8%. The effect is stronger for CEOs who receive higher incentive pay relative to

their peers. Our results appear to be driven by high-pay induced CEO overconfidence that leads to shareholder wealth losses from activities such as overinvestment and value-destroying mergers and acquisitions. We present new evidence on the relationship between CEO pay, CEO overconfidence, and future stock returns using a much broader data set than previous studies. We show that highly paid CEOs exhibit firm investment and personal portfolio choice behavior that is consistent with being overconfident and that firms with the highest paid and most overconfident CEOs earn lower future returns relative to other CEOs" (Cooper, Gulen, and Rau, 2013). They defined an overconfident CEO "as one who maintains a large proportion of unexercised exercisable in-the-money options relative to their total compensation, measured in the year after firms are allocated into pay deciles. Thus, according to this measure, the highest paid CEOs do in fact appear to be more overconfident than their lower paid peers." They found that high paid CEOs engaged in greater investment activities (capital expenditures and mergers) than low paid CEOs and that the stock market reacted more negatively to the merger announcements of the high paid CEOs. Their results "suggested that firms with highly paid CEOs earn significantly lower stock returns when the CEO is also overconfident." They also found "that the level of the industry and size adjusted incentive compensation is significantly negatively related to the forward one-year return of assets." Such poor company performance would be impounded in the negative stock returns by an efficient stock market which could give CEOs an incentive to manage accounting earnings (Cooper, Gulen, and Rau, 2013).

In financial press interviews, the authors made further observations. "These CEOs tend to think that they can do no wrong or they would not be entrusted with their position and their pay…They ignore dis-confirming information and just think that they are right. That tends to result in over-investing—investing too much and investing in bad projects that don't yield positive returns for investor. For the high-pay CEOs, with high overconfidence and high tenure, the effects are just crazy. They return 22% worse in shareholder value over three years as compared to their peers. Our results appear to be driven by high-pay induced CEO overconfidence that leads to shareholder wealth losses from activities such as overinvestment and value-destroying mergers and acquisitions." (Morgan, 2014).

Similarly, the CEOs of collapsed, fraudulent companies gradually slid into the intent to deceive "as hubris consumed them and they did whatever it took to maintain their unique and revered status in the marketplace" (Jennings, 2006). The Greek term hubris describes a personality quality of extreme or foolish pride or dangerous overconfidence. Hubris often indicates a loss of contact with reality and an overestimation of one's own competence, accomplishments or capabilities.

The authors found that CEO pay in the top ten percent of excess pay earned negative abnormal returns over the next five years of approximately 13% and summarized: "Our results seem most consistent with the hypothesis that overconfident CEOs accept large amounts of incentive pay and consequently engage in value destroying activities that translate into future reductions in returns and firm performance. Our results are inconsistent with managerial risk-shifting. Our results imply that managerial compensation components such as restricted stock, options and long-term incentives payouts, that are meant to align managerial interest with shareholder value, do not necessarily translate into higher future returns for shareholders" (Adams, 2014).

4. TYPE OF CEO PAY AND MARKET CAP CREATION

A regression analysis in this paper found results that agreed with the prior researchers' statement that "managerial compensation components such as restricted stock, options and long-term incentives payouts, that are meant to align managerial interest with shareholder value, do not necessarily translate into higher future returns for shareholders." The dependent variable for these 15 EU companies was the three year market cap creation or the increase in total market value of the company's shares. There were three independent variables: annual salary, bonus, and stock options. The model had only a slight positive, weak relationship with a multiple R of .369 and an R2 of only 0.136. The data came from the 2014 compensation reports of these 15 EU companies. The salary variable was the fixed salary or compensation of the CEO. Some of the companies did not disclose bonus information. The stock option numbers were the short-term and long-term compensation numbers from the companies' reports. Most of the stock option numbers were defined differently which may help account for this regression relationship being weak.

The Cooper, Gulen, and Rau (2013) research results have re-ignited the issue about whether CEOs are being paid too much. For example, the regression model in our study of the 15 EU companies has shown that there is only a weak relationship between the three types of CEO compensation and the three year market cap creation. These results may support the argument that CEOs are being paid too much and are not creating a better company. For example, one CEO from these 15 EU companies believed that he is overpaid. Paul Poman, the Unilever CEO, said that he was ashamed about the amount of money he earned. If the CEOs feel that they are being paid too much, then the CEOs are probably being paid too much. Poman turned down pay raises because he believed that the increase in pay would not motivate him to do better. He felt that he was already doing his best and the increase would lead to him becoming lazy (Getik, 2015).

5. TOTAL CEO PAY AND MARKET CAP CREATION

Many companies and Board of Directors' compensation committees are concerned about not having enough variable compensation tied to performance and that might cause them to lose key talent. One analyst commented: "Nobody buys this explanation. If your variable compensation plan creates retention risk when it doesn't pay out, then your compensation program is too weighted toward variable instead of fixed compensation. In other words, your salaries are too low and your target variable compensation is too high. In a well-designed plan, salary should cover the minimum

amount of pay that would be needed to keep your executives around when your company is performing poorly" (Hodak, 2015). Similarly, Sam Addoms, the former CEO of Frontier Airlines, was asked about the very high levels of compensation for the airline industry's CEOs. He said "The common argument that you hear is that if you don't pay the CEOs at this high level, they might leave. My response is: Based on their performance, what is wrong with that?" (Addoms, 2013).

In Table 1, results supported these views about an adequate, total amount of CEO pay, regardless of the three prior individual components of annual salary, bonus, and stock options. The total CEO pay for 15 of the largest EU public companies was correlated with market cap creation over a 3 year period (May 2012 to May 2015). The Pearson Correlation Coefficient was 64.5% which is a "moderate positive correlation" of CEO pay to stock market performance. Such a moderate correlation for these EU companies could be further investigated for the mix of short-term and long-term compensation in CEO pay packages for other large EU companies that may individually help drive or link such pay components to market cap creation.

Table 1. Biggest EU companies and CEO pay (Euros)

Company	*CEO Pay*	*3 Year Market Cap Creation*
Anheuser-Busch InBev	€ 6,200,000	€ 89,600,000,000
Daimler	€ 9,550,000	€ 49,580,000,000
Volkswagen Group	€ 18,018,000	€ 43,720,000,000
Total	€ 3,180,000	€ 23,800,000,000
Siemens	€ 8,280,000	€ 21,100,000,000
BMW Group	€ 7,245,000	€ 21,000,000,000
EDF	€ 1,040,000	€ 11,430,000,000
British Petroleum	€ 13,800,000	€ 7,809,000,000
Royal Dutch Shell	€ 5,600,000	€ 1,650,000,000
BASF	€ 5,111,000	€ 16,390,000,000
Christian Dior	€ 6,299,000	€ 14,320,000,000
Unilever	€ 10,000,000	€ 20,690,000,000
GlaxoSmithKline	€ 3,060,000	€ (7,700,000,000)
SAP	€ 10,237,000	€ 22,030,000,000
SABMiller	€ 8,854,000	€ 17,092,000,000
Totals	€ 126,474,000	€ 352,511,000,000
Pearson Correlation Coefficient (moderate positive correlation)	0.645	

Top 15 EU Companies CEO Pay and Market Cap Creation in 3 Years: May, 2012-May, 2015

There was a 2013 study of CEO pay for 512 public companies in Belgium, France, the Netherlands, Germany and the United Kingdom over the prior 3 years (Baeten and Huyst, 2014). For the largest companies, the average total CEO compensation was the highest in Germany (3.44 million euros), followed by the UK (3.40 million), Netherlands (2.5 million), France (2.3 million) and Belgium (2.0 million). Concerning the mix of the CEO compensation package, the variable remuneration was the highest in the UK (67%), followed by Germany (61%), the Netherlands (42%), Belgium (34%), and France (33%). This study also noted that more companies are using key performance indicators (KPIs) that have non-financial incentives which may lead to better performance. Thus, these analyses may have offered some guidelines for benchmarking the mix of CEO compensation packages for these EU companies which can then be correlated with market cap performance.

In 2014, EU CEO pay packages averaged 2.7 million euros (approximately $3 million) in these five best performing EU economies. In contrast, the 2013 U.S. CEO pay package averaged $10.5 million or 3.5 times larger than EU CEO pay (AP, 2014). Also, many U.S. CEOs make $100,000 per day versus $10,000 per day for EU CEOs (Lowenstein, 2015). As previously discussed, the Cooper, Gulen, and Rau (2013) study found that the highest-paid CEOs were the worst performers in terms of both stock market performance and financial accounting performance. Also, the longer the CEO tenure, the worse was the firm's performance since those CEOs appoint more allies to their Boards who are more likely to go along with the CEOs' bad decisions, i.e., a Board independence problem (Adams, 2014). A follow-up study found similar results for the 13 largest metal mining companies and the 13 largest primary metal companies. There were positive correlations of 76% and 69%, respectively, for CEO pay with market cap destruction over a 2011 to mid-2014 time period (Grove and Clouse, 2015).

In August 2015, the U.S. Securities and Exchange Commission (SEC) approved a rule defining a CEO pay ratio, effective for fiscal years beginning in 2017, finally implementing a provision of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Eavis, 2015). The SEC had received 280,000 comments on this issue, making it one of the most disputatious provisions of this act. The rule will require U.S. public companies to disclose the ratio of the annual total compensation of the CEO to the median of the annual total compensation of all the company's other employees. This disclosure will be required in annual reports, registration statements, and proxy statements. This rule will help investors make informed decisions on "say on pay." In 1965, the U.S. ratio of CEO-to-worker pay was approximately 20-to-1. In 1990, it was 59-to-1 and by 2013, it was 296-to-1. In the last three decades since 1978, U.S. CEO pay has increased 997% versus 10.2% for the average U.S. worker, a main driver of the widening U.S. income differences. One analyst commented: "We finally have an official yardstick for measuring CEO greed" (Rahdari, 2015). Such a yardstick could be used by Board of Directors' compensation committees.

In the U.K., some of the biggest companies are communicating with shareholders about pay raises for their top directors whose pay packages tend to be a combination of salaries, annual bonuses, and long-term incentive plans, often paid in company shares. In May 2015, the Fidelity mutual fund company released a compensation study showing that a growing number of FTSE 100, U.K. listed companies were adopting longer retention periods. 42 companies had a five-year minimum holding period versus only four in 2013, consistent with shareholders' demands that bonuses be paid out over longer periods. Starting in 2014, companies were required to hold votes on their remuneration reports, covering annual pay and remuneration policies for the next three years. One pay consultant commented: "There should be no reason why any company engaging with its shareholders should get a high level of dissent. A vote of 10% or more is a failure of communication somewhere along the line" – both for management and Board of Directors' compensation committees (Treanor, 2015). Such

high levels of dissent may be mitigated by an evolving, recommended compensation guideline: pay for performance, not presence (Kostyuk, 2014).

6. CORPORATE GOVERNANCE IMPLICATIONS FOR LONG-TERM SUSTAINABILITY PRACTICES

In Table 2, various well-known financial ratios were analyzed to determine the highest correlations with market cap creation. Such correlations indicated possible long-term sustainability practices by these 15 large EU public companies. Per a public company Chief Financial Officer (CFO) who dealt with Wall Street analysts and investors on quarterly conference calls for over ten years: "Wall Street pays for two things: top line (sales) growth and operating leverage to get the top-line growth to the bottom line (net income)" (Coburn, 2015). These two key metrics were illustrated here for the 15 EU companies. The Sales Growth Index (Current Year Sales / Prior Year Sales) had the highest correlation of any metric with market cap creation at 68%. The Profit Margin also had a good correlation at 49%.

The Quality of Revenue (Cash Collected from Customers / Revenues) had a negative correlation of 55% with market cap creation, meaning that investors were not worried about the collectability of the companies' revenues. A mitigating factor may have been the adequacy of total stockholder equity (TSE) as a percentage of total assets (TA) which had a positive correlation of 47%. This ratio averaged 35% for the 15 companies.

The CEO pay correlation of 65% from Table 1 was also included in Table 2. Each of these five moderate correlations were compiled into an overall sustainability model, using their individual correlations as coefficients to calculate individual sustainability scores for each of the 15 companies. The correlation of these sustainability scores with market cap creations was 65%, a moderate positive correlation. Thus, these correlations could be investigated as benchmarks for long-term sustainability practices by these 15 companies and compensation awards by Board of Directors' compensation committees.

Table 2. Sustainability correlations: Top EU cos. & market capital creation

	CEO Pay	*Profit Margin*	*Quality Revenue*	*Sales Index*	*TSE / TA*	*Sustain Score*	*Market Cap*
	Millions						
Company	X1	X2	X3	X4	X5	Y	
Anheus.Busch InBev	16.2	0.24	0.98	1.09	0.38	11.03	89.6
Daimier	9.6	0.06	0.99	1.10	0.24	6.59	49.6
Volkswagen Group	18.0	0.05	1.00	1.03	0.26	12.00	43.7
Total	3.2	0.02	1.04	0.93	0.41	2.34	23.8
Siemens	8.3	0.08	1.00	0.95	0.30	5.67	21.1
BMW Group	7.2	0.07	1.00	1.06	0.24	5.00	21.0
EDF	1.0	0.05	1.01	1.05	0.15	0.90	11.4
British Petroleum	13.8	0.01	1.03	0.93	0.40	9.23	7.8
Royal Dutch Shell	5.6	0.03	1.01	0.93	0.49	3.96	1.7
BASF	5.1	0.07	1.00	1.01	0.40	3.67	16.4
Christian Dior	6.3	0.05	0.99	1.04	0.50	4.52	14.3
Unilever	10.00	0.11	1.00	0.97	0.30	6.80	20.7
GlaxoSmithKline	3.1	0.12	1.04	0.87	0.12	2.15	-7.7
SAP	10.2	0.19	0.97	1.04	0.51	7.14	22.0
SABMiller	8.9	0.16	1.01	0.96	0.51	6.20	17.1
Pearson Correlation Coefficient	0.65	0.49	-0.55	0.68	0.47	0.65	
Sustain. Score:	Y = 0.65X1 + 0.49X2 - 0.55X3 + 0.68X4 + 0.47X5						

Note: Correlations are of each company's market capitalization creation in the last 3 years with the 2014 audited financial statement information. The correlation with each company's sustainability score is 0.65, a moderate positive correlation

7. MARKET CAP CREATION: "GOOD LUCK" OR SUSTAINABILITY PRACTICES?

In Table 3, market cap creations of the 15 EU companies were compared to the performance of their stock exchanges over the same 3 year period. The goal was to determine how much of these market cap increases by these companies was just "good luck" or favorable timing of the stock exchanges going up in market value, as opposed to long-term sustainability practices by these companies.

Accordingly, a market performance gap was calculated for each company. Individual market cap creation was compared to the increase in market value by the specific stock exchange where each company was listed. 5 of the 15 companies outperformed their own stock exchanges as shown in Table 3: Anheuser-Busch InBev (25.8%), Daimler (55.2%), Volkswagen Group (15.9%), Christian Dior (13.6%) and SABMiller (0.4%). Interestingly, 2 of these 5 companies are in the top 25 of the world's biggest family-run companies, Volkswagen Group at number 2 and Christian Dior at number 25. Another one of these 15 companies, BMW Group, was number 8 of 25 (msn.com, 2015). Such family-run businesses may have implications for corporate governance, especially Board independence and entrenchment, as subsequently explored with the Volkswagen example.

In Table 4, the 5 EU companies that outperformed their stock exchanges over this 3 year period were further analyzed for correlations of possible long-term sustainability. The same 5 correlations all were slightly larger as was the overall sustainability model correlation with market cap creation of 71% versus 65% in Table 2 for all 15 companies. The only major difference was the TSE / TA ratio which now had a negative 50% correlation versus a positive 47% correlation in Table 2. Such a

turnaround may mean that investors for these 5 companies were not worried about the capitalization levels of these companies. In fact, a long-term debt/sales ratio correlation with market cap creation was a positive 47% which indicated that leverage was being rewarded for these 5 companies. However, this ratio was not used in Table 2 since it had a lower correlation than the other 5 ratios.

Table 3. Top 15 EU companies 3 year stock price performance: May, 2012-May, 2015

Company	*Market Value Creation*	*Company Value Increase %*	*Stock Exchange Increase %*	*Performance Gap %*
Anheuser-Busch InBev	€ 89,600,000,000	98.6	72.8	25.8
			(Brussels)	
Daimler	€ 49,580,000,000	117.9	62.7	55.2
			(Germany)	
Volkswagen Group	€ 43,720,000,000	70.5	54.6	15.9
			(Amsterdam)	
Total	€ 23,800,000,000	29.4	55.2	-25.8
			(Paris)	
Siemens	€ 21,100,000,000	35.6	62.7	-27.1
			(Germany)	
BMW Group	€ 21,000,000,000	46.2	62.7	-16.5
			(Germany)	
EDF	€ 11,430,000,000	37.0	55.2	-18.2
			(Paris)	
British Petroleum	€ 7,809,000,000	6.8	28.9	-22.1
			(FTSE 100)	
Royal Dutch Shell	€ 1,650,000,000	1.0	54.6	-53.6
			(Amsterdam)	
BASF	€ 16,390,000,000	27.1	62.7	-35.6
			(Germany)	
Christian Dior	€ 14,320,000,000	68.8	55.2	13.6
			(Paris)	
Unilever	€ 20,690,000,000	21.9	37.7	-15.8
			(NYSE)	
GlaxoSmithKline	€ (7,700,000,000)	-7.6	28.9	-36.5
			(FTSE 100)	
SAP	€ 22,030,000,000	38.0	62.7	-24.7
			(Germany)	
SABMiller	€ 17,092,000,000	29.3	28.9	0.4
			(FTSE 100)	
Totals	€ 352,511,000,000			

Table 4. Sustainability correlations: Top 5 EU cos. & market capital creation

	CEO Pay	*Profit Margin*	*Quality Revenue*	*Sales Index*	*TSE / TA*	*Sustain Score*	*Market Cap*
	Millions						
Company	**X1**	**X2**	**X3**	**X4**	**X5**	**Y**	
Anheus.Busch InBev	16.2	0.24	0.98	1.09	0.38	11.37	89.6
Daimier	9.6	0.06	0.99	1.10	0.24	6.71	49.6
Volkswagen Group	18.0	0.05	1.00	1.03	0.26	12.52	43.7
Christian Dior	6.3	0.05	0.99	1.04	0.50	4.22	14.3
SABMiller	8.9	0.16	1.01	0.96	0.51	6.03	17.1
Pearson Correlation Coefficient	0.70	0.59	-0.70	0.70	-0.50	0.71	
Sustain. Score:	Y = 0.70X1 + 0.59X2 - 0.70X3 + 0.70X4 - 0.50X5						

Note: Correlations are of each company's market capitalization creation in the last 3 years with the 2014 audited financial statement information. The correlation with each company's sustainability score is 0.71, a moderate positive correlation.

8. EU CORPORATE GOVERNANCE RECOMMENDATION TO "COMPLY OR EXPLAIN": VOLKSWAGEN EXAMPLE

In accordance with the EU corporate governance recommendation to "Comply or Explain," key research-based, corporate governance factors, such as Board independence, major shareholder control, staggered Board elections, CEO duality, and type of CEO compensation packages, should also be assessed when analyzing past performance and future performance prospects of companies (Allemand et.al., 2013). For example, Volkswagen appears to have rigged its sales growth and profits by designing software to defeat diesel engine emission requirements in order to "make its performance numbers." After Volkswagen admitted to installing "defeat devices" in more than 11 million diesel engine vehicles worldwide in September 2015, Volkswagen lost 1/3 of its market cap in one week and recalled 8.3 million diesel vehicles in Europe.

Volkswagen had its first quarterly loss in years after providing a $7.3 billion reserve for this diesel problem in early 2016. This reserve has since been shown to be inadequate as a June 2016 settlement with U.S. Volkswagen car owners and U.S. regulators was for $14.7 billion: $10 billion on 475,000 2.0-liter diesel vehicle buybacks and $4.7 billion to mitigate pollution from such vehicles. Volkswagen has still to

reach a deal with U.S. regulators on another possible 85,000 3.0 liter diesel vehicles.

However, that $14.7 billion settlement did not include any penalties or lawsuits that might be imposed on Volkswagen. In July 2016, the state of New York said Volkswagen was exposed to state penalties of over $500 million and filed a lawsuit with the New York State Supreme Court. It claimed that over twenty Volkswagen engineers and managers were involved in the diesel deception and that both the current CEO and the former CEO were informed in 2006 about the diesel problem but the company did not want to spend the money for redesigning the cars so it decided to deploy defeat devices. After a West Virginia University study in early 2014 showed that two Volkswagen cars had emitted almost 40 times more pollution on highways as they did in laboratory conditions, Volkswagen started a campaign to mislead and confuse U.S. regulators over the next 17 months, which cited phony technical explanations for high emissions. The state of Massachusetts joined this New York lawsuit and its attorney general commented: "This is an example of a company that not only engaged in deception and fraud on a brazen scale but covered up that deception. The conduct reflects a corporate culture that had no regard for the law, no respect for the American people and no regard for the environment or people's health" (Ewing and Tabuchi, 2016). The New York lawsuit also criticized Volkswagen's Board for awarding about $70 million in salary and bonuses to the CEO and other management board members in 2015 and said: "Recent actions demonstrate that the company's culture that incentivizes cheating and denies accountability comes from the very top and, even now, remains unchecked" (Ewing and Tabuchi, 2016).

There is also a criminal investigation from the U.S. Department of Justice, a false advertising lawsuit from the U.S. Federal Trade Commission, and investigations from attorneys general in 42 U.S. states (Sorokanich, 2016). UBS financial analysts have estimated $43 billion of total costs to Volkswagen from this diesel scandal (Ewing, 2016). Accordingly by July 2016, Volkswagen's market cap was down 42%, or $43 billion, which in just one year almost completely destroyed the prior 3 year market capitalization increase of $43.7 billion. After Volkswagen also admitted that carbon dioxide emissions for 800,000 vehicles were understated in Europe, German prosecutors are investigating possible tax evasion since Volkswagen allowed its customers to potentially collect tax incentives from European governments to which they were not entitled (Ewing, Bowley, and Eddy, 2015).

Concerning corporate governance issues, the Volkswagen Board of Directors has major independence problems in addition to its performance-rigging, ethical problems. Nine of the twenty Board members (45%) are or have been Volkswagen executive managers (Minow, 2015). Volkswagen, Germany's largest company, employs nearly 280,000 people in Germany, mainly in the state of Lower Saxony where Volkswagen has its headquarters. The state of Lower Saxony owns 20% of Volkswagen common stock. Thus, if the union and local government board members, all with strong, possibly dependent, economic links to Volkswagen, are included, there are now fourteen of the twenty members (70%) who could be non-independent. According to one commentator on Volkswagen's Board, "Outside views rarely penetrate. It's an echo chamber" (Stewart, 2015).

Furthermore, Volkswagen family members control a majority of voting shares and one family member had been the Chairman of the Board (COB) for over 20 years until early 2015. He even had his fourth wife, a former kindergarten teacher and family governess, elected to the company's supervisory Board (Stewart, 2015). There was a unique twist to the well-researched CEO duality problem where the CEO is also the COB. After the diesel emission cheating emerged in late 2015 and the CEO was replaced, these family member voters elected the Chief Financial Officer, not the CEO, as the new COB (VOA News, 2015). Such actions further emphasized the Volkswagen Board's ongoing independence problems, as well as Board entrenchment problems, since there are insufficient outside shareholder voters to change the Board of Directors.

Ironically, the Volkswagen 2014 annual report touted its superior governance by stating that "transparent and responsible corporate governance takes the highest priority in our daily work. We run our business responsibly and with a long-term perspective along the entire value chain. Everyone should benefit from this – our customers, our employees, the environment and society. We consider responsible and transparent corporate governance to be a key prerequisite for sustainability increasing the Company's value." Financial press commentators have said that these assertions seem to be totally false, and intense ambition and a rigid corporate culture created the conditions for lying (Verschoor, 2016).

In commenting on "one of the biggest corporate scandals of recent years," one financial analyst summarized corporate governance at Volkswagen: "VW was an organization full of hubris, you know, dominate the world and walk-on-water type of thinking. This has all led to the situation we are in now. It is that hubris, equating to a lack of understanding of the meaning of corporate responsibility at the top – as opposed to easily pointed fingers at the action of a handful of rogue employees that is most chilling" (Medland, 2016). On a related note, Volkswagen's global sales fell 4.7% and U.S. sales fell 13% in early 2016. It should take years for the full scale of this Volkswagen emissions scandal to become apparent (Medland, 2016).

Another example of extreme hubris by top management and failure of corporate governance by its Board of Directors was ExxonMobil which in November 2015 was being investigated by the New York attorney general for lying about the risks of climate change. Exxon was aware in the 1970s that carbon dioxide from oil and gas burning could have dire impacts on the earth, and Exxon's board of directors was fully briefed by its own scientists decades ago on such risks. However, Exxon decided to "emphasize the uncertainty in scientific conclusions" and from 1998 to 2005, Exxon contributed almost $16 million to organizations designed to muddy the scientific waters. However, in 2007 Exxon acknowledged that the earth's warming was caused in large part by carbon dioxide and promised to no longer fund climate change

deniers or "junk science," as previously facilitated by Exxon's Board and its weak corporate governance (Egan, 2015).

9. PAY FOR PERFORMANCE, NOT PRESENCE: CLAW-BACKS FOR EXECUTIVE COMPENSATION

The analyses in this research paper were just simple correlations with no implied causality. However, some corporate governance researchers (Kostyuk, 2014 and Hilb, 2008) have advocated: "Pay for Performance, not Presence" which could include such correlations as part of top executive compensation packages from Board of Directors' compensation committees. Claw-back (payback) provisions for financial accounting restatements, similar to the requirements of the U.S. Dodd-Frank Act and the U.S. Sarbanes-Oxley Act, could also be included for market capitalization destruction in compensation packages. Claw-backs could also be used when a firm does poorly in relation to its peers. Compensation committees could also re-consider the conventional wisdom that CEOs make their best decisions when they have the most incentive-based compensation which is contrary to the results of the recent research studies cited here.

For example, if Volkswagen executives had a portion of their pay linked to market cap changes, they would have received an increase in compensation, based upon the Volkswagen market cap creation of $43.7 billion during the May 2012-May 2015 three-year period analyzed here. However, they would have had to claw-back, or payback, such compensation when the Volkswagen market cap decrease eliminated almost the entire $43.7 billion market cap increase in just the past year. For examples of extreme claw-backs, the Volkswagen CEO resigned the same month the cheating was disclosed and, subsequently, eight top Volkswagen managers were either suspended or have resigned by late 2015 with no mention of any golden parachute buyouts (Ewing, Bowley, and Eddy, 2015). Jim Chanos, the billionaire short seller, who was among the first to short Enron, commented that one of his firm's "historical signposts of a company in trouble is when numbers of senior people leave over a short period of time" (Wang, 2016).

10. CONCLUSION

The correlations presented and discussed in this paper could be used to identify and guide benchmarking studies in order to analyze specific business strategies and operations of these top EU public companies concerning best practices for long-term sustainability. The initial correlation of total CEO pay could be further investigated for the actual mixes of variable and fixed compensation that may correlate with these market cap creations by Board of Directors' compensation committees to enhance corporate governance. Other key correlations were sales growth, profit margin, and leverage or adequacy of capital. They could also be monitored as possible long-term sustainability practices for good corporate governance by Board of Directors' compensation committees.

For an example of corporate governance for long-term sustainability, Warren Buffett, the third richest person in the world and the head of Berkshire Hathaway for the last 50 years, has always focused upon long-term growth with significant attention to capital allocation. A key investment criterion is return on invested capital (ROIC) being greater than the weighted average cost of capital (WACC) (Williams, 2015). Jim Chanos agreed with this criterion and has observed that Enron had become self-liquidating because its ROIC was far less than its WACC (Pramuk, 2016). Berkshire Hathaway's market cap is approximately $350 billion, the third highest for U.S. companies. Buffett has observed that corporate America is too obsessed with the short-term, and he has no tolerance for earnings management to "make the numbers" each quarter. In focusing upon long-term sustainability, as opposed to promoting short-term thinking, he offers no earnings guidance, no regular stock splits, and no stock options which can massage the stock price in the short-term.

Concerning executive pay, Berkshire Hathaway dramatically departs from convention. Both Buffett and his vice-chairman, Charlie Munger, have annual fixed salaries of $100,000 with no bonuses. The majority of their compensation is variable from price appreciation of their own Berkshire Hathaway common shares which aligns their compensation with their shareholders' interests, i.e., market cap creation. Also, the following investment guidance from Charlie Munger should be relevant for Board of Director compensation committees, as well as Board of Directors' investment decisions (Williams, 2015):

- Don't Trust Wall Street: Munger distains what he calls "the Wall Street locker room culture" which puts winning above everything else. "This culture of greed and envy, two sins you should work hard to avoid, are the source of much of the financial industry's problems."
- The Importance of Trust: "Berkshire invests in companies with sound and ethical managements who are motivated more by the compulsion to do a good job than by mere financial rewards."
- Avoid Difficult Decisions: "By limiting yourself to investing in the most simple and straightforward investment ideas, you are much more likely to be successful."

An emerging example of good corporate governance comes from an active, major shareholder. Norway has the world's largest sovereign wealth fund (SWF), having grown sevenfold in less than two decades to $870 billion. It has investments in almost 10,000 companies and on average owns 1.3% of every group listed on a stock market globally. This SWF's director commented on the key investment challenge: "Where do we actually see the public company going forward? How can we make sure that the public company is actually able to put together a profitable proposition and appropriate flexibility in the way they run their business?" (Milne, 2015).

In the last two years, rather than outsourcing much investment work to consultants, this Norwegian SWF is becoming an active investor in three ways. First, it has started communicating its voting intentions at annual meetings. It recently made two such announcements: 1) climate change for BP and Royal Dutch Shell, 2 of the 15 EU companies in this study, and 2) proxy access for the utility AES. Second, it has issued two position papers on corporate governance principles: 1) proxy access and 2) the ability to vote on individual directors. Concerning CEO remuneration, the

Norwegian SWF director said a "say on pay" is fine for investors but they should not circumvent the Board on a final pay decision. Third, this SWF will sit on nomination committees of Boards of Directors. Also, a 2015 decision for this Norwegian SWF to divest of companies that have more that 30% of their business in coal was decided by Norway's parliament. However, previous decisions not to invest in producers of tobacco, nuclear weapons, and cluster bombs, as well as companies that had done serious environmental damage and human rights violations, were this SWF's own investment decisions (Milne, 2015).

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