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The effects of clawbacks on ESG

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Abstract

This paper tries to determine how reliable ESG ratings are when assessing corporate governance measures. To answer this question this paper examines the relationship between the adoption of clawback and ESG ratings. The outcome showed a positive relationship between clawbacks and ESG ratings. Furthermore, the results showed that the effect of clawback adoption on ESG ratings isn't greater at Large-Cap firms in contrast to Mid-Cap firms.

Introduction

In the year of 2000 a huge scandal came to light at Enron. It appeared that CEO Jeffrey Skilling committed fraud on a large scale by realizing potential profits that were yet to be realized. On top of that, if it turned out that profits were not as high as they were booked, then the losses weren't realized either. Furthermore, Enron also indulged in setting up special purpose entities. These were entities that did not necessarily had to be included in their own financial statements. Consequently these Special Purpose Entities were used to borrow large sums of money, which then made its way into the financial statement as income instead of borrowed money (Li, 2010).

It is clear that misconduct took place by manipulating earnings to a fraudulent extreme. In order to avoid these practices from happening again clawback provision has been brought to life. When a clawback provision has been put into place it allows for paid out bonusses to be recovered when a manager is being accused of misconduct (Chan et al., 2012).

The aim of having such a provision put into place is to impact the behavior of the manager. When the manager understands that fraudulent behavior will result in having to pay back bonusses in the future, the manager will more easily refrain from committing fraud. Altogether, it can be said that clawback provisions function as a tool for corporate governance that deters managers from publishing misstated information (Dehaan et al.,2013).

Environmental, Social & Governance (hereafter ESG) has become an measure for corporate social responsibility (Ducque-Grisales & Aguilera-Caracuel, 2019). ESG-ratings are often assessed by investors & shareholders when making investment decisions. Therefore, a demand for specialized rating agencies is created. ESG Rating agencies play a major role for stakeholders and investors as they gather and analyze information regarding Environmental, Social and Governance quality, in order to provide them with reliable information (Del Giudice & Rigamonti, 2020).

The relationship between clawback policies and ESG ratings might be relevant for the following reason: Clawback provisions have a positive relationship with audit quality. When a firm decides to implement a clawback policy, then this will mitigate incentives for managers to participate in earnings manipulation. This leads to the financial statements being more reliable

and trustworthy (Chan et al., 2012). When a relationship between clawback and ESG ratings is present, then this might indicate that rating agencies take corporate governance measures into account when assessing the ESG Score. Therefore researching the relationship between clawback and ESG ratings might be useful as the ESG ratings might hold explanatory value for corporate governance. This can be useful for investors when they need to assess the reliability of the financial statements before making an investment decision.

How useful are ESG ratings when assessing measures of corporate governance?

This paper answers the research question by researching the effect of implementation of clawback provision by firms has on their corresponding ESG Score. Furthermore, it tests whether the impact of implementing clawback provisions for Large-Cap firms is different as opposed to Mid-Cap firms.

The results of this paper show that the implementation of a clawback policy has a positive effect on the ESG Score. Furthermore, no significant evidence that clawback policy has a different impact on ESG Ratings when comparing Mid-Cap firms with Large-Cap firms was found.

This paper contributes to existing literature since not much research has been done on the effect of clawback policy on ESG Score. Lastly, ESG Ratings can be of important value to investors to base their decisions on (Friede et al., 2015). According to Chan et al. (2012) implementation of a clawback policy can lead to a decrease of accounting restatements thus leading to more faithfully represented financial statements. Seeing that clawback provisions have a positive impact on ESG ratings gives evidence that ESG ratings can also be valuable information for investors to base their decisions on. Therefore this paper contributes to society as a whole.

Literature review

At first glance, performance based pay seems to have a positive effect on the company's earnings. Managers will try their best to be able to present good annual figures to its shareholders

at the end of the year, their bonus pay increases as the company's profits do after all. The presence of performance-based pay, will result in alignment of managers and shareholders (Haubrich, 1994).

Downside of this reward system however, is that it makes way for earnings manipulation (Dehaan et al., 2013). It creates incentive for managers to manipulate accounting earnings since they get financial gain out of it.

In order to mitigate this behavior that influences the company in a negative way, clawback provisions have been brought to life. In the event of accounting earnings manipulation, a clawback provision allows a company to retract bonusses paid out earlier to managers.

In the year 2002, the Sarbanes-Oxley Act (hereafter, SOX) started to take effect. Section 304 of the SOX gave the Securities and exchange Commission (hereafter, SEC) legal ground to pressure companies into putting a clawback provision into place so paid out bonusses can be reclaimed in the occurrence of accrual earnings manipulation by managers. Unfortunately, the SEC had a difficult time enforcing SOX 304 due to limited resources and ambiguities in SOX 304 (Chan et al., 2012).

Following the economic crisis in 2008, the Dodd Frank act (hereafter, DFA) was introduced. The DFA has been put into place as a tool to prevent future bail-outs by the government and thus preventing the taxpayer to fall victim to another crisis due to misconduct by companies (Wilmarth, 2010). Section 954 of the DFA functions as an improvement for SOX 304. When SOX 304 was installed it used to be the responsibility of the SEC to enforce clawback provisions that have been put in place by companies. With the introduction of the DFA 954, this responsibility to enforce recoupment of bonusses in the event of a clawback provision being triggered, shifted from the SEC to the board members of the firm (Chan et al., 2015). It is the task of the board of directors to act in the best interests of the shareholders after all. By doing so, the firm is required to put clawback provisions into place, which will consequently serve as a monitoring tool as part of corporate governance.

Overall shareholders interpret the implementation of clawback provisions as a positive change. It may lead to a decrease in accounting earnings manipulation by managers which may lead to an increase in the quality of a financial statement. Despite the fact that companies are

required to take action in the event of a clawback provision being triggered, it still is the responsibility of the SEC to make sure that companies actually adopt a clawback provision. It did take some time however for DFA 954 to take effect. As of the 1st of July 2015 DFA 954 was made definitive, and consequently took effect from the 1st of August 2015. (Securities and exchange Commission 2015).

Why voluntary adoption?

Even though it did take some time for the legislation around clawback provisions to become effective, many companies still took effort to put such provisions into place. Dehaan et al. (2013) observed that in 2005, only 3 percent of the Fortune 100 companies adopted a clawback provision. In 2010, this number increased to 82 percent. Despite the fact that the SEC was lacking the means to effectively enforce adoption of clawback provisions, companies still felt pressured to implement clawback provisions nevertheless (Dehaan et al., 2013).

Effect of voluntary adoption on reporting quality

The presumed positive effect of putting a clawback provision into place can be described as follows: Managers are aware of the fact that if they become eligible for a performance-based bonus, that they will lose this bonus if it turns out that the performance target has been met because the manager participated in accounting earnings manipulation. On top of that, they may risk having to pay a penalty as well if being caught. Consequently, this will change the behavior of a manager to such extent, that managers will become more reluctant towards manipulating earnings since this won't pay off in the long run (Chan et al., 2012).

Chan et al. (2012) researches whether the implementation of a clawback provision actually results in an improvement in the reliability of a financial statement. By using the difference-to-difference method Chan et al. (2012) compares whether there is a difference in the frequency of restatements for firms in the period after clawback adoption in contrast to the period before clawback adoption. A restatement follows when it turns out that a firm fell short

in providing a faithful and accurate financial statement to such extend that the accountant decides that it needs to be revised (Chakravarthy, 2014).

Efendi et al. (2007) observes that restatements are observed more frequently as a casual effect of performance-based pay being present. Chan et al. (2012) builds further on the findings of Efendi et al. (2007) and hypothesizes that restatements will decrease as a causal effect of clawback provisions being put into place. The results did observe a significant decrease in restatements as a result of clawback provisions being implemented. This might suggest that the adoption of a clawback provision has a direct effect on the behavior of managers. As described in previous sections it can be concluded that incentive to manipulate earnings is being taken away in the presence of a clawback porvision. Consequence of this absence of incentive is that yearly figures become less exposed to the risks of being manipulated which will lead to a decrease in restatements.

Chan et al. (2012) also hypothesizes that the adoption of clawback provisions might also impact the stock value of the firm. As described in the last paragraph where it's written that the implementation of clawback provisions will result in managers becoming more reluctant of committing accounting earnings manipulation fearing triggering the clawback provision. This consequently leads in an improvement in the quality of the financial statement. Chan et al. (2012) suggests that the adoption of a clawback provision also can serve as a signaling effect. Firms that don't have many restatements even without having a clawback provision put into place, seem to appear more willing to adopt such provision in contrast to firms with a higher frequency of restatements. When companies choose not to implement a clawback provision fearing often triggering the clawback, then that tells something about the quality of its financial statements. So when a firm decides not to voluntary implement a clawback provision, then shareholders will interpret this as the firm providing less faithful financial statements in contrast to firms that do have a clawback provision in place. An increase in stock value for companies with a clawback provision follows as a result of being perceived more trustworthy by shareholders.

Iskandar-Datta & Jia (2013) have also built their research around the topic of the reaction of market participants. They hypothesized that firms that implemented clawback adoption could expect a more positive market response as opposed to the non-adopting control firms. They also

argued that when a clawback provision has been put in place, that this will improve the credibility and integrity of the report. Market participants interpret this as a positive improvement which will result in a positive market response.

In his paper Dehaan et al. (2013) argues that the decline in restatements after adoption of a clawback provision might be a sign of an improvement in the behavior of managers. However, Dehaan et al. (2013) questions using the frequency of restatements as proxy to determine the reporting quality. When a clawback provision is included in the employment contract of a manager, then a manager might be reluctant to file for a restatement fearing this will result in him needing to pay back his bonus. This slows down the process of executing a restatement which won't do the integrity of the financial statement any good. Having that said, Dehaan et al. (2013) puts the fact that a decline of restatements implies an improvement in the quality of financial reports to doubt.

Dehaan et al. (2013) also takes a crack at researching the impact of clawback provisions on reporting quality. In contrast to Chan et al. (2012) however, he uses the meet/beat method in order to observe the impact of clawback on earnings manipulation. When using the meet/beat method, you take a look at how close the actual earnings are to the intended targets. When the target has been met with very small deviation from the target, then this can be an indication for fraudulent behavior. When finding a high frequency of companies performing just slightly above the forecasted benchmark while observing a sample, implying that the performance figures are unevenly distributed, than this can be an indication that managers manipulate the accounting earnings in order to meet their targets. Dehaan et al. (2013) found through regressional analysis that firms who adopted a clawback policy showed significantly less meet/beat behavior as opposed to those who didn't adopt such policy. Because Dehaan et al. (2013) used this as a proxy for reporting quality it confirms his hypothesis that clawback adoption impacts reporting quality in a positive way.

R&D affected by clawback adoption

As shown in the last few paragraphs it can be clear that the adoption of clawback provisions has a positive impact on reporting quality and investors' confidence. However, there is a new potential problem that may arise when adopting clawback provisions. While manipulation in accruals management is mitigated, the incentive for managers to participate in real earnings management manipulation emerges. (Chan et al., 2015) hypothesizes that accruals earnings manipulation decreases under clawback provisions, but that cutting back on real transaction costs like R&D, administrative expenses, selling expenses etcetera will increase. Managers will have a bigger tendency towards this type of manipulation as auditors won't necessarily rate is as misconduct thus not triggering the clawback provision. As it turned out, the findings of Chan et al. (2015) confirmed their hypothesis. So Chan et al. (2015) concluded that even though stock performance and operating performance may increase as a result of mitigating discretionary expenses, performance may decrease in the long haul.

Dehaan et al. (2013) found a inverse relation between clawback provision and earnings management manipulation by using meet/beat behavior as a proxy. However, Kouaib & Jarboui (2017) found that when companies just meet or beat their benchmarks, that this can be a sign of managers reducing R&D expenses in order to meet their targets. Dehaan et al. observed less meet/beat behavior after a clawback provision was installed. However, Kouaib & Jarboui (2017) concluded that managers are willing to reduce their R&D spending in order to meet their benchmarks. This translates to the fact that even though Dehaan et al. (2013) came to the conclusion that reporting quality increases following clawback adoption, they might have not been able to capture the full scope of the effect of clawback adoption, due to the fact firms substitute accrual earnings manipulation for real earnings manipulation (Chan et al., 2015). Were it not for the fact that this behavior occurred, then even less meet/beat behavior would have been observed by Dehaan et al. (2013) after clawback adoption. From this it can be concluded that meet/beat behavior might be a weak proxy for reporting quality as managers substitute accruals management manipulation for real earnings manipulation which in its turn will result in an increase of meet beat behavior.

Clawback on firm risk

Babenko et al. (2017) also sheds a light on the effect of clawback adoption on R&D spending albeit from a different perspective. Babenko et al. (2017) hypothesizes that managers become more risk averse as a result of a firm adopting a clawback policy. Reducing their R&D spending, filing fewer patents and having lower investment growth as a part of the process of managers mitigating their risk-taking and exercising a more conservative management. Babenko et al. (2017) emphasizes on the fact that they don't take a stance on whether risk reduction is desirable. However, they do express the fact that the market reacts positively on clawback adoption.

Babenko et al. (2017) Suggests that there is a higher change of a clawback provision being installed at firms where imprudent risk-taking is present or where risk-taking is less desirable. In addition, firms that have fewer growth opportunity are more likely to adopt a more stringent clawback provision. For firms with fewer growth options, it is not desirable to take risks due to the more conservative nature of the firm. However, when a company does have growth potential, the firm might be a bit more reluctant in adopting a clawback policy. Whereas a company with few little growth potential may be afraid of managers who are taking risks, a company with growth opportunity might thrive in the presence of a risk-taking culture. This results in firms not putting a clawback provision into place fearing it will cause a suppressing effect on the managerial incentive to take risks (Babenko et al., 2017).

Corporate social responsibility

Social responsibility has been given many names in the post decades. However, the definition of corporate social responsibility has somewhat stayed the same. The definition of corporate social responsibility is the idea of creating value for shareholders, whilst also creating value for society (Rangan et al, 2012).

A huge advocate for CSR is Edward Freeman. He spoke out in favor of CSR by developing the stakeholders theory. His theory states that besides satisfying the needs of shareholders, companies should also consider looking at its output other parties involved besides its shareholders. CSR urges companies to identify its stakeholders and make effort to satisfy their needs in such way that it is perceived as beneficial to society a large (Lougee & Wallace, 2008).

However, there are some critics of CSR. Some may say that the only reason for companies to adopt CSR in order to preserve their brand reputation, implying that companies are not intrinsic motivated at all but practice CSR only to maintain their future earnings on the long run, thus keeping shareholders happy.

One of the most strong opposers of CSR is Friedman. He argued that CSR is merely an unjustified taxation that will disadvantage shareholders and that the costs of application will outweigh the benefit it will bring to society (Friedman, 1970).

Even though some criticism was shown regarding CSR, the amount of companies that adopted some form of CSR has grown rapidly in the past years (Rangan, 2012). According to a survey from the Economist (The Economist, 2008) where 1192 global executives were asked about the involvement of the company regarding CSR, only 55 percent answered that CSR was high on their priority list. Two years later, this number has increased up to 70 percent.

Hypothesis development

Having discussed CSR and clawback provisions in the past sections the question arises on how clawback adoption affects environmental, social and corporate governance? When a company chooses to adopt a clawback provision, it serves as a monitoring tool for preventing some form of fraud from happening. Therefore, implementing a clawback provision might have a positive impact on society as a whole meaning that it will have a positive impact on CSR. It can however, be quite difficult to measure CSR since it involves rating different characteristics that are hard to measure, even when done individually. Some rating agencies judge on a company's CSR performance by giving them an environmental, social and governance rating (hereafter, ESG). Having that said, the first hypothesis is as follows:

Hypothesis 1. *The adoption of clawback provisions has a positive impact on environmental, social and corporate governance.*

Not every firm chooses the same CSR strategy. To what lengths a firm goes when practicing CSR, depends on different characteristics. The size for example, has a lot of impact on how what path a company chooses when implementing a CSR strategy. Larger companies have the advantage being so big that they enjoy economies of scale. Because large companies are able to get quantity discount on CSR-related goods, the bar to practice CSR is lower for larger firms with respect to smaller firms (McWilliams & Siegel, 2001).

In addition, Drempetic et al. (2020) researched the impact of the size of a firm on their ESG Score. Drempetic et al. (2020) hypothesized that larger firms had access to more resources when gathering ESG data. Therefore they are more capable of providing the rating agencies with ESG data. Drempetic et al. (2020) found a positive relation between size and ESG Score. This might be an indication that ESG ratings are not a realistic measure. If it turns out that implementation of a clawback provision has more impact on ESG ratings of larger firms in contrast to smaller ones, then this indicates that ESG scores might not be as faithful as they ought to be. This brings us to our next hypotheses:

Hypothesis 2. *The impact of clawback adoption on The ESG Score is smaller with Mid-Cap companies than it is with respect to Large-Cap companies.*

Data and Methodology

To test whether the implementation of a clawback policy has any effect on ESG a sample of 54 companies that are listed in the Russell 3000 index is used. The data is obtained by cross referencing the companies from a clawback database with the companies that hold ESG data found in the Refinitiv Eikon database. This resulted in a dataset consisting of 54 listed non-financial companies from the period between 2008 and 2016 with a total of 469 firm-years. Non-

financial firms are excluded on purpose due to the fact that financial institutions were subject to mandatory clawbacks enforced by the Department of treasury. This was a condition set in order to receive bailouts from the government following the economic crisis of 2008 and 2009 (Chan et al., 2012).

First, a simple OLS regression is made to test for the first hypothesis. In this regression all variables are included that have been mentioned in the past paragraphs. To test the second hypothesis, the firm years have been divided into 4 groups based on their market cap. The first group is labeled as Small-Cap where with the market cap ranging from 300 million up to 2 billion U.S. Dollars, Mid-Cap ranging from 2 billion U.S. Dollars up to 10 Billion dollar, Large-Cap ranging from 10 billion up to 200 billion U.S. Dollars and Mega-Cap for companies with a market cap larger than 200 billion U.S. Dollars.

VARIABLES	(1) N	(2) mean	(3) sd	(7) Var	(8) skewness	(9) kurtosis
Liquidity	469	1.999	1.174	1.379	2.248	11.83
Size	469	2.518e+10	6.839e+10	4.678e+21	6.474	49.65
Revenue	469	1.560e+10	2.866e+10	8.214e+20	4.010	22.31
Operatingprofit	469	1.930e+09	6.273e+09	3.935e+19	8.261	76.22

Table 1 Descriptive statistics with skewness statistic and kurtosis statistic included

Based on skewness tests performed in on all variables in table 1 it has become clear that the variables *Size*, *Operatingprofit*, *Revenue* and *Liquidity* are skewed. To prevent the regression from becoming uninterpretable the previous mentioned variables were transformed into log functions. This resulted in the transformed variables following a normal distribution. Doing this also mitigates from the regression being negatively biased by outliers.

When deciding on whether to include previously described variables in our regression as control variables it might be useful to perform a Pearson correlation.

Variables	(1)	(2)	(3)	(4)	(5)	(6)
(1) ESG Score	1.000					
(2) Clawback	0.272	1.000				
(3) Ln_Liquidity	0.071	-0.079	1.000			
(4) Ln_Size	0.306	0.075	0.005	1.000		
(5) Ln_Revenue	0.093	0.065	-0.303	0.610	1.000	
(6) Ln_Operatingprofit	0.111	0.110	-0.081	0.754	0.637	1.000

Table 2 Pearson correlation table

In table 2 it is shown that the variables *Ln_Size*, *Ln_Revenue* and *Ln_Operatingprofit* have a relatively high Pearson coefficient. When performing a multilinear regression it is important to prevent independent variables from being extremely correlated with one another. In this is the case, the assumption of no perfect multicollinearity is not being met resulting in a bias. Despite the variables *Ln_Size*, *Ln_Revenue* and *Ln_Operatingprofit* having a high Pearson correlation, they aren't nearly perfectly correlated and therefore don't violate the no perfect multicollinearity assumption. However, the variable *Ln_Operatingprofit* and *Ln_Size* have a Pearson coefficient of 0.75 which is still high. Furthermore, when *Ln_Operatingprofit* was added to the model, the p-values other variables changed drastically. Therefore, the regressional analysis to test the hypothesis has been done without including the variable *Ln_Operatingprofit*. The results of this regression can be found in the table 3.

	(1)
VARIABLES	Model 1
Clawback	10.32***
	(1.610)
Ln_Liquidity	1.746
	(1.627)
Ln_Size	8.193***
	(1.074)
Ln_Revenue	-0.896
	(0.864)
Ln_Operatingprofit	-7.603***
	(1.779)
Constant	33.16
	(22.19)
Observations	468
Adj. R^2	0.194

*Table 3 with the variable Ln_Operatingprofit included. *** p<0.01, **<0.05 and *p<0.1. Robust standard errors are in parentheses*

To perform the regressional analysis to test hypotheses 1, the following regression is needed:

$$ESG\ Score = \beta_0 + \beta_1\ Clawback_{it} + \beta_2\ Ln\_Liquidity_{it} + \beta_3\ Ln\_Size_{it} + \beta_4\ Ln\_Revenue_{it} + \varepsilon_{it}$$

ESG Score is the score ranging from 0 to 100 given to a company by rating agencies based on their ESG performance. *Clawback* is a dummy variable that gives the value 1 for firm years where a clawback provision has been put in place and the value 0 if a clawback provision has not been put into place. *Ln_Size* is the total stock value of a company expressed in Dollars. *Ln_Revenue* is the total turnover made over the period of the corresponding fiscal year. *Ln_Liquidity* represents a ratio as a result of dividing current assets by current liabilities.

The independent variable of interest when testing the first hypothesis is the *Clawback* dummy variable. Other variables have been added as an attempt to mitigate the omitted variable bias.

To test the second hypothesis an additional regression needs to be made to test whether the coefficient of the *Clawback* variable of Mid-Cap companies is significantly different compared to the *Clawback* variable of Large-Cap companies. In this paper the second hypothesis is tested with the following regression:

$$ESG\ Score = \beta_0 + \beta_1\ Mid\text{-}Cap + \beta_2\ Clawback_{it} + \beta_3\ Mid\text{-}Cap{*}Clawback + \beta_3\ Ln\_Liquidity_{it} + \beta_4\ Ln\_Size_{it} + \beta_5\ Ln\_Revenue_{it} + \varepsilon_{it}$$

Where the variable *Mid-Cap* has the value of 1 if the Size of the firm falls within the Mid-Cap range and 0 if the company falls within the Large-Cap range. The *Mid-Cap*Clawback* has a value of 1 if the company falls within the Mid-Cap range and the company has a clawback provision installed and holds a value of 0 in all other cases.

Firstly, this paper sheds a light on the descriptive statistics and see whether some variables stand out.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Clawback = 0				Clawback = 1			
VARIABLES	N	mean	median	sd	N	mean	median	sd
ESG Score	178	39.38	39.38	17.84	291	49.67	49.67	17.78
Liquidity	178	2.206	2.206	1.528	291	1.872	1.872	0.871
Size (x1.000.000)	178	30,878	30,878	90,880	291	21,698	21,698	49,757
Operating Profit (x1.000.000)	178	2,076	2,076	8,071	291	1,840	1,840	4,870
Revenue (x1.000.000)	178	17,792	17,792	35,844	291	14,263	14,263	23,167

Table 4 Descriptive statistics where Clawback = 0 for companies that don't have a clawback policy put into place and Clawback = 1 for firms that do have a clawback policy put into place

In table 4 the descriptive statistics based of the dataset are shown sorted by the dummy variable *Clawback*. The dummy variable holds the value zero for firm years where the company didn't have a clawback provision implemented and the value 1 for firm-years where the company did have a clawback policy implemented. What stands out in this table is that companies that did have a clawback policy implemented, ended up scoring higher on ESG ratings. Although regressional analysis is required to test the first hypothesis, this nevertheless can still be interpreted as a positive sign of the first hypothesis being true. Firms with a clawback policy implemented, score on average higher on ESG ratings as opposed to firms that don't have a clawback policy implemented. What's remarkable however, is that the companies that don't have a clawback policy implemented, on average have a higher value on all the other control variables in contrast to firms that do have a clawback policy implemented. *Operatingprofit*, *Liquidity* and *Size* all hold a higher average at companies that don't have a clawback policy implemented compared with companies that do.

VARIABLES	(1) Mid-Cap N	(2) mean	(3) median	(4) sd	(5) Large-Cap N	(6) mean	(7) median	(8) sd
ESG Score	238	39.99	39.99	17.00	197	54.90	54.90	17.12
Clawback	238	0.550	1	0.498	197	0.721	1	0.450
Liquidity	238	1.926	1.926	1.034	197	2.146	2.146	1.379
Size (X1.000.000)	238	5,006	5,006	2,067	197	32,468	32,468	30,598
Operating Profit (X1.000.000)	238	604.3	604.3	591.3	197	2,090	2,090	1,940
Revenue (X1.000.000)	238	7,746	7,746	10,994	197	20,260	20,260	26,736

Table 5 Descriptive statistics on a sample where only Mid-Cap firms were included and a sample where only Large-Cap firms were included

In table 5 shown above the you can find the descriptive variables sorted on Cap-Size. What stands out is the fact that the Large-Cap firms on average score higher on the *ESG Score* compared to Mid-Cap firms. This is not surprising as McWiliams & Siegel (2001) and Drempetic et al. (2020) pointed out that Firmsize is positively correlated with CSR and ESG. Furthermore, the share of Large-Cap firms that adopted a clawback policy is significantly higher than it is with Mid-Cap firms. This resonates with the assumptions made by McWilliams & Siegel (2001) that state that larger companies have more resources available to engage in ESG practices. If you start looking further at the statistics in the table you notice that operating profit is higher at firms with a larger Cap-Size in contrast with smaller ones which isn't surprising as larger companies on average tend to have larger turnovers and profits. Lastly, it is noticeable that the mean and median of the variables *Size*, *Revenue* and *Operatingprofit* differ a lot from one another. This might be a sign of the variables being skewed.

Results

The results are shown in the tables in this section. First there is being tested for hypothesis 1. Next the sample is divided into four groups based on Cap-Size and run separate regressions on them.

VARIABLES	(1) Model 1
Clawback	9.655***
	(1.628)
Ln_Liquidity	1.620
	(1.627)
Ln_Size	5.590***
	(0.816)
Ln_Revenue	-2.160**
	(0.844)
Constant	-40.50**
	(18.68)
Observations	469
Adj. R^2	0.163

*Table 6 Regression with ESG Ratings as dependent variable on the whole sample of 469 firm years. *** p<0.01, **<0.05 and *p<0.1. Robust standard errors are in parentheses*

In table 6 the results of the regression to test the first hypothesis are presented. In the table it is shown that *Clawback*, our variable of interest is positively significant at the 1% critical level. This is an indication that adoption of a clawback policy has a positive impact on the ESG Score of a company thereby confirming the first hypothesis. . The fact that the variable *Clawback* is positive and also highly significant, serves as evidence that there is a positive relationship of clawback implementation on ESG ratings. To make investment decisions, investors first need to make an assessment based on information. Investors highly rely on information to base their decisions on. Therefore, this information needs to be reliable. The positive relationship between *Clawback* And *ESG Score* gives an indication that ESG rating agencies take into account whether a firm has

adopted a clawback provision or not when rating a firm. Therefore ESG ratings can be valued as a reliable source when investors need to assess the corporate governance measures of a firm.
The coefficient holds a positive value of 9.66. This can be interpreted as follows: having a clawback provision put into place, positively affects *ESG Score* by 9.66

Of the remaining variables in the model liquidity is significant at any level. Therefore their coefficients cannot be interpreted. However, the variables *Ln_Size* and *Ln_Revenue* are significant. Size is positively significant at a 1% critical level. As the variable is a logarithmic it can be interpreted as follows. If the Size increases by one percent, then the *ESG Score* increases by 0.0559. The control variable *Ln_Revenue* was negatively significant at a 5% critical level. As this variable is logarithmic transformed it can be interpreted as follows: If the Revenue increases by one percent, *ESG Score* decreases by 0.0216.

It is not interesting to interpret the intercept coefficient for two reasons. The first reason is the fact that *ESG Score* cannot be negative as the ESG Score range from 0 to 100. If all added variables would be 0, then the forecasted value of ESG Score would be -40.50 which is impossible. The second reason is the fact that it is highly unlikely for the control variables to have a value of 0.

In table 6 it is shown that this regression hold an adjusted R^2 value of 0.1625. This is means that 16.3% of the variance of the dependent variable is explained by the added independent variables. This might oppose a problem as it weakens the explanatory value of the coefficients in the regression.

VARIABLES	(1) Model 1	(2) Model 2
Clawback	7.309***	11.41***
	(2.084)	(2.577)
Ln_Liquidity	-1.624	4.755**
	(2.248)	(2.057)
Ln_Size	9.474***	-0.0203
	(2.735)	(1.691)
Ln_Revenue	-0.660	-1.998
	(0.997)	(1.274)
Constant	-159.3***	90.58**
	(56.70)	(36.88)
Observations	238	197
Adj. R^2	0.096	0.112

*Table 7 Regression with ESG Ratings as dependent variable. Model 1 shows the regression based on the sample with firm years of Mid-Cap companies. Model 2 shows the regression based on the sample with firm years of Large-Cap companies. *** p<0.01, **<0.05*

In table 7 shown above the results of two separate regressions can be found. The first model is a regression where the sample size consists of the firm-years of the companies residing in the Mid-Cap segment. The second model is a regression with a sample size that consists of firm-years from Large-Cap companies. Regressional analysis on Small-Cap companies and Mega-Cap companies has also been performed. However, they don't give us an answer to the second hypothesis. Furthermore, the Small-Cap and Mega-Cap samples were very small and therefore weren't really reliable, therefore this paper will not go into detail about these regressions. The results of these regressions can be found in table 8.

VARIABLES	(1) Small-Cap	(2) Mega-Cap
Clawback	-5.114	-4.582
	(5.921)	(3.522)
Ln_Liquidity	5.459	5.214
	(6.927)	(9.157)
Ln_Size	-3.340	-17.34*
	(4.384)	(7.765)
Ln_Revenue	16.67	13.07
	(9.723)	(10.23)
Constant	-265.1	163.5
	(270.5)	(123.9)
Observations	25	9
Adj. R^2	0.137	-0.058

Table 8 Regression with ESG Score as dependent variable. Model 3 shows the regression of the sample that consists of Small-Cap firm years. model 4 shows a regression of the sample that consists of Mega-Cap firm years. *** p<0.01, **<0.05 and *p<0.1. Robust standard errors are in parentheses

The first model of table 7 shows that *Clawback*, the variable of interest, is positively significant at a 1% critical level. This serves as evidence that there is a causal relationship for Mid-Cap firms between the adoption of a clawback provision and ESG Score. The coefficient can be interpreted as follows: Implementing a clawback policy affects the forecasted ESG Score by 7.31. The control variable *Ln_Liquidity* and *Ln_Revenue* are insignificant and therefore cannot be interpreted. The variable *Ln_Size* is significant at a 1% critical level with a coefficient of 5.59. As the variable *Ln_Size* is log transformed it should be interpreted as follows: an increase of Size by 1%, *ESG Score* will positively affected by 0.0947.

Model 2 shows the regression of the sample only consisting of Large-Cap firms. This model shows that our variable of interest *Clawback* is positively significant at a 1% critical level. This serves as evidence that there is a positive causal relationship between Large-Cap firms adopting a clawback policy and their ESG Score. This coefficient can be interpreted as follows: If a Large-Cap firm decides to adopt a clawback policy, then this well affect *ESG Score* positively by 11.41.

What model 2 further shows is that The variables *Ln_Size* and *Ln_Revenue* are not statistically significant. Ln_Liquidity is statistically significant. As the variable liquidity is log

transformed this variable is interpreted as follows: if the liquidity ratio increases with 1 percent, then this will positively affect *ESG Score* with 0.0476.

Both the variable of interest of Mid-Cap and Large-Cap firms are positively significant. These results give no evidence that the two samples statistically differ from one another. However, To answer the second hypothesis, an additional regressional analysis is needed. The results are shown in the table below.

	(1)
VARIABLES	Model 1
Mid-Cap	-8.110**
	(3.832)
Clawback	11.03***
	(2.709)
Mid-Cap*Clawback	-2.832
	(3.492)
Ln_Liquidity	1.259
	(1.570)
Ln_Size	2.807*
	(1.485)
Ln_Revenue	-1.612**
	(0.799)
Constant	16.39
	(33.13)
Observations	435
Adj. R^2	0.216

*Table 9 Regression to test for a difference of a clawback policy on ESG Ratings between Mid-Cap and Large-Cap firms. *** p<0.01, **<0.05 and *p<0.1. Robust standard errors are in parentheses*

In table 9 all the variables are shown from the regression to test for hypothesis with the variables *Mid-Cap* and *Mid-Cap*Clawback* added. Our variable of interest is *Mid-Cap*Clawback* as this variable tests whether the clawback coefficients of Mid-Cap firms and Large-Cap firms are significantly different from one another. the variable *Mid-Cap*Clawback* is not statistically significant as it has a p-value of 0.418. This means that the impact of the implementation of a clawback policy on ESG ratings is not bigger with Large-Cap firms than it is with Mid-Cap firms. Since no evidence has been found that the impact of clawback implementation on ESG ratings is biased by size, the assumption that rating agencies give higher ratings to larger companies as

opposed to smaller companies can be rejected. This implies that rating agencies are not biased by the size of a firm when taking clawbacks into account to assess the ESG Score. This serves as evidence that ESG ratings are more realistic. Therefore the null hypothesis stating $\beta_{Mid\text{-}Cap} = \beta_{Large\text{-}Cap}$ remains and hypothesis 2 is rejected.

Conclusion

After having presented the results allows to give an answer to the question : How useful are ESG ratings when assessing measures of corporate governance? The regression in table 6 showed that our variable of interest *Clawback* showed positive significance. This gives us evidence that implementing a clawback provision positively influences the company's EGS-score thereby confirming the first hypothesis that implementing clawback provision has a positive effect on the ESG Score. Confirmation of the first hypothesis gives us evidence that ESG Ratings are affected by the fact whether a firm has got a clawback policy put into place. This effect can be caused because implementing a clawback policy can be seen as a company adhering to the principles of CSR with the result of ESG rating agencies granting higher ESG Ratings to firms that have a clawback policy put into place. The Fact that rating agencies give higher ESG ratings to firms that have a clawback provision put into place, serves as evidence that rating agencies take clawbacks into account when assessing ESG ratings. Therefore, ESG ratings can be a good measure for investors when assessing corporate governance measures.

Furthermore, this paper found no proof that the effect of implementing an clawback policy has a larger effect with Mid-Cap firms as opposed to Large-Cap firms or vice versa. Previous literature showed that companies that are large in size have more resources at their disposal to invest in CSR responsible projects and therefore have a higher ESG Score in contrast to smaller firms. On top of that, Drempetic et al. (2020) stated that larger firms tend to get higher ESG ratings. This serves as evidence that ESG ratings are somewhat biased. If the clawback coefficient of Large-Cap firms was significantly higher than the clawback coefficient of Mid-Cap firms, then

this could mean that ESG ratings are somewhat biased towards giving larger companies a higher ESG Score meaning that ESG Scores would be less reliable when assessing corporate governance measures. However, since no proof was found that these coefficients significantly differ from one another, the second hypothesis is rejected. This gives an indication that ESG rating agencies are not biased towards giving larger companies higher ESG ratings when considering clawbacks. This contributes to the reliability value of ESG ratings.

All taken together, it can be concluded that corporate governance measures have been taken into account when assessing ESG ratings. On top of that, the fact that the effect of clawback implementation on ESG ratings isn't significant greater for Large-Cap firms as opposed to Mid-Cap firms suggests that there is no evidence that ESG agencies are biased by size when taking clawback into account to while determining ESG ratings. This this gives us evidence that ESG scores can be seen as reliable information to investors when consulting information to base their investment decisions on.

However, there are some limitations in this paper that need to be reckoned with. Firstly, companies that adopted a clawback provision, might also take part in other CSR activities that influence ESG Ratings. It is possible that the causal effect of clawback on ESG Ratings is weaker than it appears as it's lacking control variables to mitigate biases. Therefore it can be interesting for future research to identify factors that are present at clawback firms and have a significant influence on ESG Ratings and add them as control variables. The second reason it is interesting to add other control variables in future research is that the regressions made in this paper hold somewhat little explanatory value as the R-squared scores were not higher than 0.25.

Furthermore, this paper shed a light on whether effect of clawback on ESG Score was larger with Mid-Cap firms as opposed to Large-Cap firms. While it was concluded that the effect of clawback on ESG Score wasn't significantly different, it doesn't rule out that that size doesn't have an influence on the effectiveness of clawback on ESG Score. Since the number of Small-Cap firms in the sample this paper used were somewhat limited, it was not tested for difference in effectiveness. For future research it might be interesting to include Small-Cap firms when testing for difference in effectiveness of clawback on ESG Ratings.

Lastly, the sample size used to perform the regression consisted of 469 firm years. Since a larger sample size gives more accurate or representative results, it might be interesting to perform similar regressions using a larger sample size.

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