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Do CSR Activities Influence Cash Holding Policy in European Countries?

Feker Mhadhbi*

Abstract

The purpose of this article is to check whether socially responsible activities influence the cash holding policy in European companies. Using a sample of 1,352 European companies during 2006-2015, we find that companies with good social performance hold less cash than companies with lower social performance. We also found that in European countries that guarantee good investor protection, CRS companies accumulate less cash. CSR activities can indeed be an effective strategy for resolving conflicts between managers and shareholders, by demonstrating that the manager uses resources efficiently and has no intention of expropriating them. Taking into account the legal origin of the countries, we have noticed that socially successful companies operating in common law are less likely to hold high cash levels. These resuslts suggest that in the presence of good environment that ensures good investor protection, the negative effect of CSR activities on the level of cash holding is accentuated.

Keywords: social responsibility, holding cash, investor protection, legal origin, environnemental performance, social performance.

I. INTRODUCTION

In recent years, researchers have focused on exploring the links between corporate social responsibility and a range of financial theory ingredients. Recent studies have examined the relationship between social responsibility and the cost of equity (Dhaliwal et al., 2011; Ghou et al., 2011), the cost of debt (Menz, 2010; Goss & Roberts, 2011 ; and Albuquerque et al., 2014), the cost of capital (Hart & Ahuja, 1996; Sharfman & Fernando, 2008), mergers and acquisitions (Deng et al., 2013), dividend policy (Rakotomavo, 2012; Cheung et al., 2018), the market value of companies (Bird et al., 2007; Galema et al., 2008; Jiao, 2010; and Marsat & Williams, 2013), earning management (Ajina et al., 2019), financial risk (Boutin-Dufresne & Savaria, 2004; Lee & Faff, 2009; and Oikonomou et al., 2012). This paper aims at understanding the financial impact of the socially responsible actions of firms. We participate to the open debate on how social performance influences cash holding policy, mainly in European companies. The choice of the sample is justified by the scarcity of previous studies dealing with the link between CSR and cash holding in the specific context of Europe. Indeed, few writings are interested in the relationship in Europe (Nasr et al., 2020) were interested in the French context. Conversely, the existing literature analyzes the link in an international context. For example, Arouri and Pijouret (2017) included in their study sample 50 countries belonging to various geographical areas (USA, Europe, and Asia). Their study focused on the effect of CSR on the value of the cash holding. Cheung (2016) also included in the sample of his study, aiming to identify the channels through which social performance affects the value of cash held in the company, 2333 companies from several different

* Assistant professor in finance. Higher Institute of Accounting and Business Administration, Manouba, Tunisia. Campus of Manouba, 2010, Tunisia. Phone: +216600705. E-mail: faker.mhadhbi@iscae.uma.tn. Web page: https://iscae.rnu.tn.

geographical regions. It therefore seems interesting to us to test the relationship in the specific context of Europe and check whether it varies according to the different institutional environments. In fact, CSR has gained importance in the strategy of the European Union. Over the past twenty years, several documents (green papers, communication, etc.) have made it possible to establish a common definition and framework of actions for CSR. Several regulations have been put in place to promote corporate responsibility. ESG reporting is now mandatory for a large number of European companies.

There was considerable interest in the cash holding theory. Empirical research has attempted to identify the fundamental determinants of liquidity holding. The explanation of holding cash by firms goes back to Keynes (1936) hich presents two patterns: the motif of transaction and the motif of diversification. The motif of the transaction is related to the idea that holding cash allows the company to avoid certain costs generated by current transactions, such as the costs of raising funds or selling assets. As a precaution, the company may tend to hold significant levels of liquidity to enable it to cope with potential exogenous financial shocks and liabilities during distress events. Other motives were then developed in the literature, such as the financial constraint motive (Almeida et al., 2004; Han & Qiu, 2007; and Denis & Sibilkov, 2010), the fiscal motive (Foley et al., 2007), the diversification motive (Duchin, 2010; Tong, 2011) and the agency motif (Boubaker et al., 2013; Liu et al., 2015). The latter refers to conflicts of interest between the manager and the shareholders, arising from the fact that the latter have primarily the objective of maximizing the value of the firm, opt for low levels of the value of cash held in the company and fear the risk of expropriation by managers. As for managers, they often want to increase the value of cash in order to face uncertainty. The discussion of the effect of socially responsible actions on the value of cash held by companies may be part of this conflict of interest. CSR actions can on the one hand fuel this conflict since managers can expropriate shareholders through socially responsible actions and divert funds to their interests. On the other hand, CSR actions undertaken by managers could alleviate the tension between the main stakeholders. The effect of CSR on the value of cash through the corporate governance channel is therefore unclear.

This paper makes several constrinutions to the litterature. First, we have focused on studying the link between cash holding and CSR in European countries. To our knowledge, no previous study was dedicated to this framework. Then, in order to test the moderating effect of the quality of governance and the level of investor protection on the relationship between cash holding and social performance, we combined several indices such as the level of transparency of transactions, the extent of information disclosure, the possibility of legal action against shareholders and the level of corruption control. We also tried to verify whether the adoption of a specific legal system influences the relationship between social performance and cash holding.

Based on a sample of 1352 companies between 2006 and 2015, with a total of 6487 observations, the results show that good social performance leads to less cash holdings in European firms. Indeed, CSR activities can be a good strategy leading to the resolution of conflicts between the manager and shareholders who might consider that the manager uses resources efficiently and does not intend to expropriate them. The results of the study remain unchanged using alternative cash holding measures or considering other components of CSR. By taking into consideration the quality of corporate governance and the level of investor protection at country level, the results show that good governance and a good level of investor protection lead to low cash holdings in European countries. We also tried to verify whether the adoption of a specific legal origin influences

the relationship between CSR and cash holding. We distinguish the common law or English system, the French legal system, the German legal system and the Scandinavian legal system. We have noticed that socially successful companies in countries adopting English common law hold less cash, which is in line with the result of our baseline analysis. In fact, countries adopting common law are characterized by a good level of investor protection.

In our paper, we try to highlight the fundamental determinants of cash holding in European companies by focusing on the effect of social performance. We focus on the issue of shareholder protection and its joint effect with social performance on the amount of cash. The rest of the paper is organized as follows. The following section will be devoted to the literature review and the research hypotheses. In the third section, we present the sample and the data used as well as the basic econometric model. The results of the baseline analysis will be presented and discussed in a fourth section. Finally, in a fifth section, we perform a variety of robustness tests to ensure the robustness of our results.

II. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1. The Effect of CRS on Cash Holding

Two different points of view can be developed explaining the effect of CSR expenditures andholding of cash. From the point of view of the agency's theory, CSR activities could be associated with considerable agency problems, resulting in a high level of rootedness of management. Managers could use CSR activities for their own benefit to increase their private benefits (Surroca & Tribo, 2008; Jiraporn & Chintrakarn, 2013; and Fabrizi et al., 2014). They may undertake socially responsible projects to reduce the effect of internal controls (Surroca & Tribo, 2008; Fabrizi et al., 2014), or to reduce the likelihood of hostile takeovers. CEOs can undertake CSR activities to increase their power in the company (Jiraporn & Chintrakarn, 2013). Once their level of rootedness in the company is high, they reduce their expenses. Fabrizi et al. (2014) argue that it is the most entrenched CEOs who are most engaged in CSR activities.

Berger et al. (1997), on the other hand, point out that strong and entrenched CEOs are not disciplined in the overall corporate governance and control mechanisms. According to Surroca and Tribo (2008), rooted managers can work with non-core stakeholders to strengthen their rooting strategy. The authors make three arguments to justify the CEO's commitment to CSR. First of all, the CEO can be concerned about his reputation since stakeholders could acquire the power to sanction senior leaders by engaging in media or boycott companions. For fear of losing their jobs, CEOs can engage in CSR strategies to gain the support of stakeholders and thus protect their positions and power (Cespa & Cestone, 2007). Second, by colluding with stakeholders, CEOs reduce the company's appeal to potential thieves. Finally, Surroco and Tribo (2008) underline that stakeholder satisfaction and the CSR-focused strategy can be used as rooting mechanisms to offset the impact of internal control mechanisms. In addition, entrenched CEOs are less subject to market pressure and therefore cannot behave in a "short-sighted manner" by reducing all investments that do not provide an increase in short-term returns (Stein, 1989).

At this level, we can assume that good governance can be associated with a low level of social performance and vice versa. Also, corporate governance helps to mitigate agency problems associated with holding cash (Dittmar & Mahrt-Smith, 2007; Yun, 2009; and Chen et al., 2012). Dittmar and Mahrt-Smith (2007) point out that firms with weak governance rapidly dissipate cash to significantly reduce operational performance.

This negative impact of large liquidity on operating performance is offset if the business is well governed. Recent studies have highlighted the negative relationship between corporate governance and holding cash (Arouri & Pijourlet, 2017; Cheung, 2016). Good corporate governance is associated with a low level of cash held. Thus, our first hypothesis is:

H_1: there is a positive association between social performance and cash holding.

However, on the other hand, another hypothesis quite contradictory to this one can be developed. Social performance could have a positive relationship with governance for several reasons. First, it is interesting to recall that one of the main pillars on which we base our assessment of the social performance of investments is the pillar of governance. In fact, in our research work, scores are provided by MSCI and combine environmental, social and governance (ESG) factors. All else being equal, strong (weak) social performance implies strong (weak) governance. CSR strategies can in fact be seen as a way for the manager to act in the interest of the stakeholders and not a way to act in his interest, which implies an efficient use of the company's liquid resources such as cash. These expenses can be an effective strategy for the manager to resolve conflicts with stakeholders and alleviate tension with them (Harjoto & Jo, 2011; Jo & Harjoto, 2012; and Jiraporn & Chintrakarn, 2013).

From an instrumental perspective of stakeholder theory, the manager's commitment to CSR strategies that enable him to obtain stakeholder engagement can enable more efficient use of financial resources (Donaldson & Preston, 1995). The implementation of good stakeholder relations within a socially responsible company reinforces its reputation and makes it attractive to high-quality staff (Turban & Greening, 1997; Greening & Turban, 2000), as it can strengthen the commitment of current staff and increase customer loyalty (Fombrun et al., 2000). Thus financial resources are considered to be allocated more efficiently in socially responsible companies. Beltratti (2005) notes that both governance and social responsibility are positively related to the market value of the firm. Second, managers of companies with strong governance can use their relationships with activist stakeholders as an effective entrenchement strategy, suggesting that good governance is associated with high CSR. Our second hypothesis is the following:

H_2: good social performance is associated with good governance and a low level of cash holdings.

2.2. The Moderating Effect of Investor Protection

It is important to qualify first of all that in the case of the existence of a poor level of investor protection, the risk of expropriation is twofold. Stulz (2005) proposed an alternative to the neoclassical model known as the twin agency problems. First, insiders who control the company can use their power for their own benefit and misappropriate funds to the detriment of external investors (outsiders), creating "the agency problem related to the discretionary practices of insiders." However, their expropriation is costly and depends mainly on the quality of protection of minority shareholders. Second, state leaders can use their power to expropriate the company and increase their wealth at the expense of all shareholders, creating (the agency problem related to the discretionary practices of state leaders). This expropriation is also costly and depends both on the part that state officials can divert as well as on the quality of protection of all investors or on the constraints imposed on the leaders of the state. These two problems are considered twins rather than separated and can feed on each other. Expropriation by state leaders leads to greater consumption of private profits by corporate insiders, because any amount

left by corporate insiders will be partially taken by state leaders. Stulz (2005) points out that corporate insiders can better reduce the risk of expropriation by taking measures that increase both their discretion and make it more difficult for state leaders to monitor their actions. Indeed, several previous studies have highlighted the effect of governance practices and investor protection on cash holding. Laporta et al. (2000) find that firms operating in countries with low levels of investor protection distribute low levels of dividends, indicating a high level of cash. Analysing the determinants of cash holding in a sample of 11,000 firms from 45 countries, Dittmar et al. (2003) also notes that firms operating in countries with a low level of investor protection hold a high level of cash. In this case strong agency problems are anticipated. On the other hand, firms operating in countries that guarantee a good level of investor protection hold less cash. Kalcheva and Lins (2007) found that internationally, when shareholder protection is low, companies hold more cash, but the result was negligible. The authors stipulate that the management control of cash negatively affects the value of the company, which shows that cash is not invested in profitable projects. When the protection of external shareholders is low, the value of the firm decreases if the managers hold more cash. If managers pay dividends, the value of the firm increases even if the protection of external investors is low. The authors assert that the excess of cash held by the control managers does not affect the value of the firm in the event that the protection of external investors is good. Indeed, the existence of a good level of protection for external investors encourages managers to avoid unnecessary investments that could harm the value of the firm. Pinkowitz et al. (2006) point out that the link between the level of cash holding and the level of the firm is weaker in countries with lower investor protection. The authors note that the relationship between dividend distribution and firm value is weaker in countries that provide greater investor protection. They also find that the value of cash is lower for minority shareholders in firms operating in countries with low investor protection. In such countries, managers and control shareholders expropriate minority shareholders by using the company's resources for their own benefit, thus involving high agency costs between the manager and minority shareholders. Kusnadi and Wei (2011) stipulate that investor protection has a first-order effect on the holding of cash. According to them, in countries providing a good level of investor protection, firms hold lower levels of cash in response to an increase in cash flow. On the other hand, Caprio et al. (2013) highlight the impact of the existence of strong rules of law in favour of shareholders on the cash holding strategy. The authors postulate that the adoption of English common law, synonymous with strong shareholder law, positively affects the cash holding company. They point out that companies are extremely concerned about the threat of expropriation by politicians and bureaucrats and that they structure their assets to protect themselves against this threat. In countries where this threat is high, the level of cash held is low and companies direct their liquidity to assets that are more difficult to extract. The authors note that holding cash at the corporate level is negatively correlated with measures of political corruption.

In this context, we can assume that when the level of investor protection is strong, managers are less likely to use of the company's financial resources for their personal benefit. They will not tend to accumulate cash and will encourage to operate for the interest of the company and stakeholders by making CSR expenditures. Thus, our hypothesis is:

H_3: a good level of investor protection associated with good social performance leads to low levels of cash held.

III. RESEARCH METHODOLOGY

3.1. Sample and data

We have chosen to focus on the European context since, to our knowledge, no research work on the link between social responsibility and cash holding has been dedicated to this framework. We combine our social responsibility data with the financial data for the sampled companies and we winsorize all variables at the 1 and 99 % level to mitigate the effect of outliers. These data are extracted from the Compustat database. The matching of the databases gives us a sample consisting of 6487 observations representing 1249 companies from 35 European countries between 2006 and 2015.

Table 1 provides the annual distribution by country of our sample. We also provide the number of firms per country. The annual distribution of observations is as follows: 542 observations in 2006, 524 in 2007, 550 in 2008, 538 in 2009, 491 in 2010, 503 in 2011, 570 in 2012, 826 in 2013, 1043 in 2014 and 900 in 2015. The countries with the highest number of observations are Great Britain (2111 observations, representing 32.54%), France (769 observations, or 11.85%) and Germany (524 observations, representing 8.07%).

Table 2 provides the annual distribution by industry of our sample. We also provide the cash average per industry. The greatest number of observations corresponds to the manufacturing sector (2170 observations), followed by the Finance, insurance and real estate sector (1390 observations), then the the transport and public services sector (1089 observations).

Table 1
Sample Distribution by Country

Country	Number of Observations	Percentage	Number of Firms	Total Cash	Average Cash
Austria	95	1.46	32	102026.5	1108.984
Belgium	108	1.66	23	249419.5	2309.44
Bulgaria	3	0.046	1	34.888	11.62933
Cyprus	9	0.138	3	1130.261	125.5846
Czech Republic	27	0.416	8	386487	14314.33
Germany	524	8.077	126	1635223	3138.624
Denmark	157	2.42	36	1863623	11870.21
Spain	299	4.6	95	510803.6	1708.373
Finland	241	3.715	69	161120.7	668.5506
France	769	11.85	184	2882483	3753.233
Faroe Islands	1	0.015	1	405.109	405.109
Great Britain	2111	32.54	366	6367839	3019.364
Guernsey	8	0.123	2	36192.52	4524.065
Gibraltar	14	0.215	2	2198.239	157.0171
Greece	60	0.924	14	37005.65	638.0285
Croatia	4	0.061	2	38583	9645.75
Hungary	28	0.4311	6	8409139	300326.4
Isle of Man	6	0.092	2	2437.051	406.1752
Ireland	81	1.24	20	109468.2	1368.352
Iceland	3	0.046	1	95.96	31.98667
Italy	298	4.59	64	475449.9	1595.47
Jersey	54	0.832	6	25802.95	477.8323
Lithuania	3	0.046	1	216.009	72.003
Luxembourg	56	0.863	10	60786.81	1085.479
Malta	3	0.046	1	2237.835	745.945

To be continued Table 1.

Country	Number of Observations	Percentage	Number of Firms	Total Cash	Average Cash
Netherlands	225	3.46	35	425558.2	1891.37
Norway	178	2.743	24	1717363	9648.109
New Zealand	148	2.281	14	14644.81	98.95143
Poland	118	1.819	10	276601.7	2344.082
Portugal	69	1.063	14	62089.51	926.7091
Romania	11	0.169	2	17294.55	1729.455
Russia	231	3.56	52	2.52E+07	109281.2
Slovakia	11	0.169	4	2000.589	181.8717
Sweden	387	5.965	82	3237902	8388.346
Turkey	147	2.266	40	408213	2915.807
Total	**6487**	**100**	**1352**	**5.48E+07**	

Table 2
Sample Distribution by Sector

Distribution of the Sample by Sector	Number of Observations	%	Cash Average
Agriculture, forestry and fisheries	9	0.13	126.32
Mining	373	5.74	2718.99
Construction	235	3.62	1418.26
Manufacturing	2170	33.45	6847.14
Transport and public services	1089	16.78	3786,36
Wholesale trade	142	2.18	287.28
Retail trade	401	6.18	960.65
Finance, insurance and real estate	1390	21.42	24138.41
Services	602	9.28	442.92
Public administration	76	1.17	4161.22
Total	**6487**	**100**	

3.2. Basic Model and Identification of Variables

3.2.1. Basic model

Our main objective is to define the relationship between the level of cash holding and the social performance of companies in European countries. Several groups of variables will be used, such as firm-specific financial variables and governance variables. Our basic model is defined as follows:

$$CASH_{i,t} = \alpha_i CRS_{i,t} + \beta_i \sum \text{control variables} \quad \text{.....} \quad 1$$

Where:

$CASH_{i,t}$ is the measure of cash held by company i at time t; we measure this variable as the ratio of liquid assets divided by total assets.

$CRS_{i,t}$ is the social performance score given to the company i at time t. The presence of this variable in our equation makes it possible to identify the existence of a direct effect of social responsibility on the level of cash holding held by companies European.

3.2.2. Description of the variables

1) Corporate social responsibility (CSR)

We use the IVA (Intagible Value Assessment) scores provided by MSCI (Morgan stainly capital international)-ESG research, formally known as innovest strategic advisors and risks mestrics. Scores are based on four pillars. The "environment" pillar focuses on environmental risks, environmental management capacity (for example, environmental management systems, audit, environmental reporting, certification, environmental training, etc.), or environmental opportunities. The human capital pillar includes sub-

headings on employee development and motivation, labour relations, health and safety. The "stakeholder capital" pillar addresses partnerships with stakeholders, relationship with local communities, supply chain management, human rights. Finally, the strategic governance pillar encompasses the sustainable governance strategy, strategic capacity and adaptability, and traditional governance concerns. Table 3 describes the annual variability in the average of the overall social responsibility scores for European countries. Statistics show a significant difference in CSR scores between several European countries. Icelandic companies receive the lowest social responsibility scores (averaging 2.10), followed by the Isle of Man (averaging 2.17), Greece (2.5), Malta (2.73) and Russia (2.98). On the other hand, the highest CSR scores are received by companies in Cyprus which recorded an average level of 10.22 over the study period and a peak during 2015. Lithuania is in second place, with an average score of 7.43, a significant difference from Cyprus. Companies in the G7 European countries, the UK, Germany and France, receive average scores of 5.83, 6.10 and 6.5, respectively. As for the average change per year, the average scores showed an upward trend until 2009 when they began to decrease slightly, probably due to the effect of the Subprime crisis occurring during this period. Starting in 2012, average scores continued to rise to 5.53 during 2015.

Insert Table 3 here.

2) The control variables

Several distinct motives have been identified in the literature that have an influence on cash holding, namely the transactional motive (Keyns, 1936), the precautionary motive and the financing motive (Deloof, 2001). For the purpose of taking into account the reason for the transaction dealing with the compromise between the need to hold liquid assets to meet liquidity needs and the costs that could possibly be incurred as a result of such holding, we include in our model the variable measuring the net working capital of cash and short-term investments (NWC). Moreover, for reasons of precaution, in an uncertain world where the cash flows of firms are volatile, they may tend to hold liquid assets to deal with an unfavourable decline in their cash flows. We construct a variable expressing the volatility of cash flows measured by their variance (VARNCF) over 10 years spent as a proxy for precaution motive. Then, in order to identify the financing motive, we integrate the leverage ratio into our model. We construct for this purpose a variable (leverage) equal to the sum of short-termandlong-termdebtsdividedby totalassets[1]. We also incorporate another variable into the model that takes into account the business investment motive, namely capital expenditure (CapEx). These are the funds used by an enterprise to acquire or modernize physical assets such as, goods, industrial buildings or equipment. It is often used to undertake new projects or investments for the company. This type of expenditure is also made by companies to maintain or increase the scope of their operations. These expenses can include everything from repairing the roof of a building to purchasing equipment or building a new plant. Other control variables are also integrated to take into account these different motives, namely the level of cash flows (NCF), expenditure on research and development (Resexp), economic profitability (reneco), the level of tangibility[2] assets (Tang) measured as the ratio of

[1] According to the financing hierarchy theory, there is a positive relationship between the level of liquid assets and the indebtedness of firms (Almeida & Campello, 2007). Jensen and Meckling (1976) ; Myers (1984) ; and Frank and Goyal (2003) point out that debt is more secure with high levels of liquid assets and the risk of opportunism is lower.

[2] Asset tangibility is presented in the financial literature as a determining variable of the financial structure.

the level of fixed assets to total assets and finally the size of the enterprise measured by the logarithm of assets (Size).

Table 3
Annual Evolution of CSR Scores for European Countries

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Avg.
Germany	6,32	6,32	6,39	6,46	6,55	5,86	5,79	5,60	5,85	5,91	6,10
Austria	5,45	5,85	5,89	5,38	4,18	5,00	5,22	5,47	5,70	6,14	5,43
Belgium	4,47	4,26	4,87	5,51	5,24	4,56	4,35	4,77	5,21	5,29	4,85
Bulgaria								4,50	4,50	4,50	4,50
Cyprus	5,72	6,72	7,72	8,72	9,72	10,72	11,72	12,72	13,72	14,72	10,22
Croatia									5,10	5,10	5,10
Denmark	4,62	4,62	5,27	5,76	5,46	6,09	6,14	6,37	6,30	6,27	5,69
Spain	5,68	5,72	6,36	6,27	6,51	6,52	6,42	6,10	5,84	5,84	6,13
Finland	6,62	6,62	6,58	7,11	6,75	6,27	6,74	6,64	6,23	6,33	6,59
France	6,77	6,77	6,73	6,72	6,28	6,23	6,55	6,14	6,39	6,38	6,50
Foroe Island									3,30	3,30	3,30
Great Britain	6,12	6,18	6,12	5,82	5,66	5,62	5,74	5,68	5,75	5,59	5,83
Guernsey	8,05	8,05	8,05			2,75	3,10	4,00	4,20	4,20	5,30
Gibraltar	4,60	4,60	5,35	4,57	5,10	5,22	7,78	7,30	7,90	7,90	6,03
Greece	3,52	3,52	4,00	4,00	1,47	1,96	0,48	0,48	2,80	2,80	2,50
Hungary	4,79	4,79	6,71	5,92	5,19	5,30	8,20	6,53	5,93	5,93	5,93
Isle of Man						1,65	2,18	2,00	2,50	2,50	2,17
Ireland	3,22	3,22	3,43	4,03	3,87	3,78	4,61	5,79	6,01	5,81	4,38
Iceland								2,10	2,10	2,10	2,10
Italy	3,87	4,00	4,32	4,97	5,18	5,55	5,42	5,07	5,11	5,24	4,87
Jersey	4,91	4,91	3,83	4,27	5,55	3,56	5,35	5,77	5,52	5,50	4,92
Lithuania								6,90	7,70	7,70	7,43
Luxembo-urg	5,23	5,25	5,56	5,40	5,18	4,65	5,28	5,12	5,22	5,20	5,21
Malta								3,00	2,60	2,60	2,73
Netherlands	6,00	5,91	5,98	6,21	5,90	6,31	6,35	5,88	6,13	6,10	6,08
Norway	6,59	6,59	5,95	6,48	6,58	7,02	6,61	6,06	5,67	5,75	6,33
New Zealand	4,44	4,44	4,19	4,36	4,50	6,08	5,43	5,36	5,30	5,18	4,93
Poland	3,83	3,83	4,78	4,78	4,96	4,96	2,24	4,85	4,56	4,49	4,33
Portugal	5,35	5,35	5,10	5,62	6,01	5,26	5,63	6,63	6,84	6,84	5,86
Czech Republic	4,93	4,93	5,35	6,03	5,59	5,40	4,19	5,57	5,45	5,45	5,29
Romania	3,51	3,51	2,69					6,75	7,25	7,25	5,16
Russia	2,50	2,50	2,84	3,03	3,63	3,30	2,86	3,11	3,01	3,01	2,98
Slovakia								6,97	6,83	6,83	6,88
Sweden	6,59	6,59	6,63	6,50	6,55	6,54	6,51	6,37	6,36	6,34	6,50
Turkey	3,26	3,26	2,26	2,44	2,20	3,09	3,47	3,53	3,96	3,94	3,14
Average	5,02	5,08	5,25	5,41	5,30	5,13	5,33	5,42	5,50	5,53	

3) Effect of governance and investor protection variables

(a) Investor protection

We use in this part the indices developed by Doing business. Doing business measures the level of protection of minority investors by focusing on a range of indicators highlighting the right of shareholders in corporate governance. Several dimensions are studied in the evaluation of the protection of shareholders against conflicts of interest. The first concerns the transparency of transactions with related parties. Within this framework, the index measuring the extent of information disclosure ranges from 0 to 10. Higher values indicate greater disclosure. The second dimension is related to the eventualities of the lawsuit against the directors responsible for insider trading. The index measuring executive accountability ranges from 0 to 10; the higher values indicate greater executive accountability. Finally, the third dimension concerns the ease of legal actions by shareholders. This index varies from 0 to 10, the highest values indicate greater ease of prosecution by shareholders. The results of our analysis are presented in Table 11. We report only the coefficients on the CSR variable.

4) Country and corporate level governance indices

In this framework, we used the indicators of Kaufmann et al. (2005), which measure several dimensions of governance.

The corruption control index highlights perceptions of the extent to which public power is exercised for private purposes, including minor and major forms of corruption, as well as the control of elites and interests over the state. The government effectiveness index captures perceptions of the quality of the public service and its degree of independence from political pressures, the quality of public policy development and implementation, and the credibility of the government with respect to those policies. The political stability index and the absence of violence/terrorism reflects perceptions of the likelihood of political instability, or/and politically motivated violence, including terrorism. The rule of law index highlights the perceptions of the extent to which agents trust and respect the rules of society and, in particular, the quality of performance of contracts, property rights, police and courts, and the likelihood of criminal acts and violence. The quality of regulation index captures perceptions of the government's ability to formulate and implement sound policies and regulations that enable and support private sector development. The voice and accountability index indicates perceptions of the extent to which citizens of a country can participate in the choice of their government, as well as freedom of expression, associations and the media.

To take corporate governance into consideration, we use the governance scores assigned by MSCI ESG research, which assess companies according to four main criteria, namely boards of directors, ownership and control, pay and accounting practices.

IV. RESULTS AND DISCUSSIONS

4.1. Descriptive Statistics

Before moving to the basic regression, we begin our study with a preliminary analysis of descriptive statistics and correlations that could give us an idea of the nature of the variables used in our study. Table 4 gives us an idea of the averages, standard deviations, minimum and maximum values of the variables used. The statistics show an average value of holding cash in European firms of around 8% of total assets. In terms of social responsibility scores, the average value of firms in the sample is around 5.7. Roughly speaking, an average European firm is characterized by a size of 9.16, cash flows generated by 2%, a debt level of 25%, a net working capital of cash and short-term

investments of almost 9% and capital expenditure and research and development of 5% and 3% respectively.

Table 4
Descriptive Statistics

Variables	Obs.	Mean	Std. Dev.	Min.	Max.	Skew.	Kurt.
CRS	6484	5.695	2.449	0	10	-0.181	2.387
Cash	6460	0.08	0.082	0.001	0.443	2.123	8.321
Casheq	5079	0.088	0.094	-0.33	1.421	3.122	22.851
NWC	5112	-0.016	0.15	-0.404	0.571	0.745	5.64
CapEx	5076	0.052	0.043	0.001	0.217	1.557	5.679
Resexp	2667	0.029	0.046	0	0.268	2.832	12.236
Tang	5112	0.621	0.194	0.054	0.949	-0.611	3.015
Size	6482	9.168	2.1	4.894	14.743	0.459	2.885
NCF	6482	0.024	0.06	-0.258	0.205	-1.019	9.311
Leverage	6159	0.255	0.172	0	0.809	0.655	3.269
Variance	6484	0.599	0.033	0.54	0.64	-0.199	1.674
Reneco	6477	0.08	0.075	-0.149	0.385	0.985	6.768

In addition, before proceeding with the estimates, it is essential to examine the level of correlation of the explanatory variables and to check whether there is a possible problem of multicolinearity, something that can lead to instability of the estimated coefficients. The analysis of the correlation matrix in Table 5 would be accompanied by the development of the VIF test (Variance Inflation Factor) Based on the degree to which the variance of the coefficients in a partial regression is increased relative to the case where the variables are independent. The inspection of the correlation matrix shows that the level of cash at firm level (cash) is negatively correlated with social responsibility (-0.118).

Insert Table 5 here.

In conclusion, Table 5 shows that the correlation coefficients between the different explanatory variables are generally low. This observation leaves us to speculate the absence of a problem of multi-linearity. However, the elaboration of the VIF test in this case seems to us essential for the confirmation of our results. The results of the test show the weakness of the values of the individual VIF of the coefficients which are less than two for all variables, which proves the absence of a problem of multicolinearity in our regression.

4.2. Multivariate Results: Basic Regression

For our base variable, the results presented in Table 6 show that social responsibility is negatively and significantly associated to cash holdings at the 1% (column 1). This reflects a direct negative effect of social performance of European companies on their cash holding levels. An increase of one unit in the measure of social responsibility leads to a decrease of 0.1% in the level of cash held. This result could have different possible explanations. In fact, from an economic point of view, social responsibility actions can offer the company real competitive advantages that distinguish it from its competitors by ensuring its good reputation and improving its brand image vis-à-vis consumers, public authorities, suppliers, media, investors and banks. By undertaking social or environmental actions, the company would be more able to attract and retain customers. This implies increasing the level of its cash flow and minimizing its volatility. Socially responsible firm is therefore not obliged to hold a significant amount of liquidity for reasons of precaution or to deal with external shocks. In addition, the good reputation makes it easier to raise money in the event of a need for financing at the lowest cost.

Table 5
Correlation Matrix of Variables

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) Cash	1										
(2) CRS	-0.118 (.000)***	1									
(3) NWC	-0.09 (.000)***	-0.041 (.000)***	1								
(4) CapEx	-0.154 (.000)***	-0.001 (.000)***	-0.081 (.000)***	1							
(5) Resexp	0.43 (.000)***	-0.077 (.000)***	0.055 (.009)***	-0.231 (.000)***	1						
(6) Tang	-0.505 (.000)***	0.061 (.000)***	-0.369 (.000)***	0.27 (.000)***	-0.343 (.000)***	1					
(7) Size	-0.308 (.000)***	0.272 (.000)***	-0.183 (.000)***	0.16 (.000)***	-0.314 (.000)***	0.295 (.000)***	1				
(8) NCF	0.043 (.000)***	-0.009 (.004)***	0.112 (.000)***	0.089 (.000)***	0.023 -0.558	-0.028 (.000)***	-0.002 (.000)***	1			
(9) Leverage	-0.259 (.000)***	0.057 (.042)**	-0.175 (.000)***	0.122 (.000)***	-0.339 (.000)***	0.382 (.000)***	0.2 (.000)***	-0.218 (.000)***	1		
(10) Variance	0.089 (.000)***	-0.106 (.000)***	-0.001 (.000)***	-0.069 (.001)***	0.048 (.001)***	-0.027 -0.367	-0.1 (.000)***	-0.061 -0.223	-0.098 (.000)***	1	
(11) Reneco	0.045 (.000)***	0.02 (.035)**	0.146 (.000)***	0.158 (.000)***	0.079 (.000)***	-0.007 (.000)***	-0.093 (.000)***	0.683 (.000)***	-0.139 (.000)***	-0.063 (.001)***	1
VIF		1.097	1.21	1.155	1.322	1.507	1.294	1.98	1.33	1.035	2.01
1/VIF		0.911	0.826	0.866	0.757	0.663	0.773	0.505	0.752	0.966	0.5

Notes: values in parentheses are p values; significancelevels: *p<0.10; **p<0.05; and ***p<0 .01.

Consequently, the firm would not be required to accumulate cash for reasons of financing or precaution. Another explanation lies in the stakehorlder theory. CSR activities can ease tensions between stakeholders and reduce the opportunism of managers. The latter would therefore not hold high levels of cash since they have no intention of expropriating the shareholders. CSR strategies can in fact be seen as a way for the manager to act in the interest of the stakeholders and not a way to act in his interest, which implies an efficient use of the company's liquid resources such as cash. These expenses can be an effective strategy for the manager to resolve conflicts with stakeholders and alleviate tension with them.

To better understand the impact of specific CRS components on cash holding in European firms, we also use the environmental and social ratings provided by MSCI-ESG research. These scores measure the environmental (ENV) and social (SOC) performance of companies. Our results remain unchanged. The coefficients on the variable (CRS) are highly significant with negative signs. European companies more involved in environmental and purely social actions are therefore characterised by low levels of liquid assets.

In addition, several other control variables relating to the financial specificities of enterprises have been introduced in the basic model in order to identify the determinants of the levels of holdings of liquid assets in European companies. The results of the estimates highlight the negative effect of the size of the company on the level of holding of cash. The coefficient on this variable is highly significant at a degree of significance of 1%, with a negative sign. This result is consistent with the assumptions of the arbitration theory. Large firms could benefit from scale savings in transaction costs (Baumol, 1952; Miller & Orr, 1966 ; and Mulligan, 1997). They would therefore be able to collect liquidity if needed at a lower cost. This is all the more true since these companies enjoy such a large negotiating power in relation to the donors, which facilitates their external financing (Diamond, 1989). On the other hand, according to hierarchical financing theory, large enterprises are characterized by a weakness in informational asymmetry compared to small firms (Harris & Raviv, 1991; Opler et al., 1999; and Drobetz et al., 2010), making it easier for them to access external funding when needed. On the other hand, small firms will be obliged to build liquid deposits for precaution motive or to finance future investments. As for the variable measuring the value of cash flows in relation to assets, it is positive and significant at a degree of 1%. This result confirms the assumptions of the hierarchical theory that companies having preferences to internal financing tend to accumulate more cash flow liquidity in order to be able to self-finance if there are profitable investment opportunities, or pay dividends and interest on debts (Opler et al., 1999; Ferreira & Vilela, 2004; and Ozkan & Ozkan, 2004). Jensen (1986) points out, as part of the Free Cash Flow theory, that the company with high levels of cash flows tends to accumulate high levels of free cash flow. However, the cash-flow volatility variable has a positive sign, highlighting the positive effect of cash-flow volatility on the accumulation of liquid assets. This result is consistent with previous research on cash holding (Cleary, 1999 ; Opler et al., 1999; Almeida et al., 2004; Ozkan & Ozkan, 2004; Booth & Cleary, 2006; and Bates et al., 2009; etc.). In fact, the volatility of cash flows is an indicator of instability and distress for the company. The latter, having volatile cash flows, tends to hold high levels of cash in order to use it to face up its current liabilities or to finance investments during the period of decline in cash flows generated.

The results also show that the coefficient on the variable (resexp) is positively significant, indicating the positive direct effect of R&D expenditures on the holding of cash. This result, in accordance with the cash holding literature (Cheung, 2016), may have

several possible explanations. On the one hand, firms involved in research and development projects are generally characterized by a considerable degree of informational asymmetry due to the nature of their projects, making external investment more difficult. The accumulation of liquid assets is therefore a necessary solution for these firms to finance their projects. According to the free cash-flow theory, managers prefer to invest additional liquidity in research and development projects, even if they have doubts about their profitability, instead of returning it to shareholders (Jensen, 1986).

We also consider the capital expenditure variable. The coefficient on the variable (Capexp) is highly significant at a degree of significance of 1%, with a negative sign as expected. This says that the increase in capital expenditures decreases the holding of liquid assets. So, the more a firm spends capital on new business development, the less liquid assets it holds. This result is consistent with the assumptions of the preference hierarchy theory which assumes that substantial capital expenditure tends to drain liquid asset balances. The results also show that the proxy variable of tangible assets (tang) is highly significant with a negative sign. In fact, European firms that acquire tangible long-term assets can use them as collateral to obtain loans on the market, which could reduce cash flow requirements (Noguera & Pech, 2012)). The results also show a direct negative effect of the net working capital variable of cash and short-term investments. The coefficient on this variable is negative and statistically significant. This means that firms with a high level of net working capital may hold low levels of cash due to the presence of other cash-substituted assets that can be converted into liquidity. This result is consistent with previous work such as Islam (2012) or Noguera and Pech (2012).

Table 6
Basic Regression Results

Cash Measure	Expected Sign	Global CRS Performance	Environnemental Performance	Social Performance
$CRS_{i,t}$	(?)	-0.0011	-0.0019	-0.001
		$(-2.10)^{**}$	$(-3.08)^{***}$	$(-1.65)^{*}$
$NWC_{i,t}$	(-)	-0.25237	-0.2519	-0.2528
		$(-20.01)^{***}$	$(-19.98)^{***}$	$(-20.02)^{***}$
$CapExp_{i,t}$	(-)	-0.1174	-0.1197	-0.1242
		$(-3.20)^{***}$	$(-3.27)^{***}$	$(-3.40)^{***}$
$Resexp_{i,t}$	(+)	0.0932	0.0921	0.0939
		$(2.12)^{**}$	$(2.10)^{**}$	$(2.14)^{**}$
$Tang_{i,t}$	(-)	-0.3845	-0.3859	-0.3833
		$(-34.73)^{***}$	$(-34.85)^{***}$	$(-34.70)^{***}$
$Size_{i,t}$	(-)	-0.0034	-0.0033	-0.0035
		$(-2.41)^{**}$	$(-2.39)^{**}$	$(-2.52)^{**}$
$NCF_{i,t}$	(+)	0.0625	0.0633	0.0414
		$(2.87)^{***}$	$(2.92)^{***}$	$(2.34)^{**}$
$Leverage_{i,t}$	(-)	-0.0454	-0.0426	-0.0456
		$(-1.72)^{*}$	$(-1.65)^{*}$	$(-1.73)^{*}$
$Variance_{i,t}$	(+)	0.0745	0.0537	0.0795
		(3.07)***	(2.11)**	(3.29)***
$Reneco_{i,j}$	(+)	0.031	0.0312	0.0403
		$(1.68)^{*}$	$(1.70)^{*}$	$(1.71)^{*}$
Cansante	(+)	0.3185	0.3351	0.3179
		$(16.51)^{***}$	$(16.42)^{***}$	16.43^{***}
R^2		0.41	0.407	0.409
Rho		0.736	0.739	0.7396

Notes: significance levels= $^{*}p<0.10$; $^{**}p<0.05$; and $^{***}p<0$ .01.

4.3. Moderating Effect of Governance and Inestors Protection

We break down our overall sample according to whether firms have a higher or lower level of investor protection. A higher level indicates that the company has an investor protection or governance index above the median and vice versa. The results are presented in Table 7. The results in table shows that the coefficient on the CSR variable remains negative and highly significant on the sample of European companies with a higher level of governance and operating in a framework where investor protection is good. We also note that the coefficient on the CSR variable has increased remarkably for each subsample. This means that in the presence of good and strong governance within the company and an environment that ensures good investor protection, CSR activities negatively influence the level of cash holding. We can also note that this negative impact has become stronger in these countries. However, this is no longer the case for the lower part of the sample, where the coefficient on the CSR variable loses its significance, which shows that in the presence of poor governance and a low level of investor protection, CSR actions have no significant influence on the level of cash.

Table 7

Moderating Effect of Governance and Inestors Protection Variables

	Global Performance		Social Component		Environmental Component	
	High Level	**Low Level**	**High Level**	**Low Level**	**High Level**	**Low Level**
Panel A: sorted according to the level of governance at the company level						
RSE	-0.003	-0.0008	-0.004	-0.001	-0.003	-0.00003
	(-6.06)***	(-0.91)	(-5.81)***	(-0.99)	(-4.61)***	(-0.04)
Obs	3241	3219	3241	3219	3241	3241
Panel B: sorted by overall level of investor protection						
RSE	-0.002	-0.0006	-0.004	-0.0008	-0.004	-0.0014
	(-4.54)***	(-1.16)	(-5.41)***	(-1.08)	(-5.15)***	(-1.64)
Obs	3360	3100	3360	3100	3360	3100
Panel C: sorted according to the level of transparency of transactions						
RSE	-0.003	-0.0001	-0.005	-0.001	-0.004	-0.001
	(-6.30)***	(-0.26)	(-7.35)***	(-1.44)	(-5.95)***	(-1.49)
Obs	3704	2756	3704	2756	3704	2756
Panel D : sorted by extent of disclosure of information						
RSE	-0.002	-0.0007	-0.004	-0.0003	-0.003	-0.0006
	(-4.15)***	(-1.29)	(-5.85)***	(-0.85)	(-4.41)***	(-1.01)
Obs	4142	2605	4142	2605	4142	2605
Panel E: sorted according to the extent of the ease of shareholders' legal actions						
RSE	-0.02	-0.0009	-0.003	-0.002	-0.002	-0.00001
	(-6.13)***	(-1.45)	(-5.45)***	(-3.00)	(-4.23)***	(-0.02)
Obs	2334	2318	2334	2318	2334	2318
Panel F: sorted by corruption control level						
RSE	-0.022	-0.0006	-0.004	-0.0002	-0.002	-0.0005
	(-3.99)***	(-1.27)	(-4.92)***	(-0.65)	(-2.98)***	(-0.94)
Obs	3296	3122	3296	3122	3296	3122
Panel G: sorted by level of government efficiency						
RSE	-0.002	-0.0007	-0.003	-0.001	-0.003	-0.003
	(-4.26)***	(-1.28)	(-4.56)***	(-1.23)	(-3.78)***	(-0.78)
Obs	3360	3100	3360	3100	3360	3100

To be continued Table 7.

	Global Performance		Social Component		Environmental Component	
	High Level	**Low Level**	**High Level**	**Low Level**	**High Level**	**Low Level**
Panel H : sorted according to the level of political stability						
RSE	-0.001	-0.0006	-0.002	-0.001	-0.001	-0.002
	(-2.42)***	(-0.92)	(-3.60)***	(-1.30)	(-1.84)*	(-1.23)
Obs	3320	3140	3320	3140	3320	3140
Panel I: sorted according to the quality of contract performance						
RSE	-0.002	-0.0005	-0.004	-0.0008	-0.003	-0.0007
	(-3.99)***	(-0.59)	(-5.14)***	(-1.21)	(-4.74)***	(-1.26)
Obs	3279	3181	3279	3181	3279	3181
Panel J: sorted according to the quality of the regulation						
RSE	-0.002	-0.0007	-0.003	-0.0005	-0.003	-0.0008
	(-3.94)***	(-1.54)	(-4.57)***	(-0.89)	(-3.95)***	(-1.29)
Obs	3361	2825	3361	2825	3361	2825
Panel K: sorted by level of accountability						
RSE	-0.002	-0.0005	-0.003	-0.0007	-0.002	-0.0009
	(-4.34)***	(-0.86)	(-4.62)***	(-1.12)	(-3.26)***	(-0.95)
Obs	3401	3059	3401	3059	3401	3059

Notes: significance levels= *p<0 .10; **p<0.05 and ***p<0 .01.

4.4. Robustness Tests

4.4.1. Alternative measure of cash

In order to ensure the robustness of our results, we tried to use other cash measures. The alternative measure of cash is cash and cash equivalent divided by net assets. The latter is measured as total assets net of cash and cash equivalents. The social responsibility variable is always highly significant with a negative sign, ensuring the robustness of our results.

Table 8
Basic Regression Results

Cash Measure	Global CRS Performance	Environmental Performance	Social Performance
$CRS_{i,t}$	-0.0019	-0.003	-0.0031
	(-2.29)**	(-3.16)***	(-1.71)*
$NWC_{i,t}$	-0.3866	-0.3862	-0.3956
	(-19.52)***	(-19.50)***	(-19.58)***
$CapExp_{i,t}$	-0.1703	-0.1739	-0.1845
	(-2.98)**	(-3.05)***	(-3.21)***
$Resexp_{i,t}$	0.1123	0.1086	0.1185
	(1.55)	(1.98)**	(2.02)**
$Tang_{i,t}$	-0.591	-0.5934	-0.6095
	(-34.02)***	(-34.15)***	(-34.65)***
$Size_{i,t}$	-0.0054	-0.0054	-0.0061
	(-2.42)**	(-2.40)**	(-2.64)***
$NCF_{i,t}$	0.1243	0.1259	0.154
	(3.66)***	(3.72)***	(2.95)**
$Leverage_{i,t}$	-0.0722	-0.068	-0.074
	(-1.75)*	(-1.65)*	(-1.70)*
$Variance_{i,t}$	0.0828	0.0501	0.0574
	(2.20)**	(1.72)*	(1.79)*

To be continued Table 8.

Cash Measure	Global CRS Performance	Environmental Performance	Social Performance
Reneco$_{i,j}$	0.0773	0.078	0.0841
	(2.66)**	(2.68)***	(2.98)**
Cansante	0.4866	0.5123	0.4925
	(16.05)***	(16.00)***	(16.24)***
R^2	0.407	0.383	0.37
Rho	0.765	0.757	0.754

Notes: significance levels= *p<0 .10; **p<0.05 and ***p<0 .01.

4.4.2. Endogeneity problem

To ensure the robustness of our results, we conduct an analysis with the hypothesis of the presence of an endogeneity problem in the basic model. We suspect that the CSR variable is endogenous. Endogeneity comes from the fact that a variable used as explanatory (CRS in our case) is correlated with the error term. In other words, there are observable or unobservable factors (but not taken into account) that affect both the CRS variable and the cash holding variable. In the presence of endogeneity, the estimate by ordinary least square produces non-convergent estimators since the orthogonality hypothesis between regressors and the error term is not verified. In order to deal with the existence of a possible endogeneity problem in the social responsibility variable, we make estimates with the presence of instrumental variables. As a first step, we regress the values of the Global Social Responsibility Index and its components (environmental responsibility and pure social responsibility) on the respective instruments to predict the values of these indices. Based on the work of Cheng et al. (2014) and Arouri and Pijourlet (2017), we generate two instruments by calculating the average global CSR index (excluding the contribution of local firms) for each country-sector pair and for each country-year pair. The intuition is that the social performance of an enterprise is systematically influenced by those of other firms operating in the same industry and similarly by those of other firms located in the same country over time. In fact, previous research has shown that social performance is determined by country and sector-specific characteristics (Ioannou & Serafeim, 2012). In addition, they could vary systematically over time depending on the country according to the laws and regulations in force (Ioannou & Serafeim, 2011). However, before going any further, we must ensure that the two coefficients we have used are good instruments. First, their explanatory power on the assumed endogenous regressor must not be too weak. The instrument weakness test reveals a relatively strong Fisher statistic (275,048) and thus rejects the null hypothesis of instrument weakness. An overdentification test must then be performed since we have more instruments than endogenous regressors. We can notice that the statistic of the Sargan x^2 (1) test is 0.44, or a p-value of almost 50%, that is to say that we have more than 50% risk of being wrong by rejecting the null hypothesis H_0. Moreover, the Basman Statistics confirms the test and gives a good appreciation of the choice of instruments. In columns (1), (3) and (5) of Table 9, we report the coefficients of these instruments in the first step of the regression. The coefficients on these instruments are positive and highly significant, confirming the results obtained by Cheng et al. (2014) and Arouri and Pijourlet (2017) and highlighting their validity. In the second step, we substitute the CSR values by the predicted values in the first step of regression. The results are reported in columns (2), (4) and (6) of the Table 9. The coefficient on the predicted social responsibility variable is negative and highly significant, thus confirming the result already

achieved in our study highlighting the negative effect of CSR actions on the level of cash holding in European companies.

Table 9
Effect of Social and Environmental Performance: Instrumental Variables Method

Cash Measure	Global Performance		Environmental Performance		Social Performance	
	1st Step	2nd Step	1st Step	2nd Step	1st Step	2nd Step
	(1)	(2)	(3)	(4)	(5)	(6)
Predicted Value of CRS		-0.0061		-0.0083		-0.0055
		(-4.91)		(-4.59)		(-3.29)
CRS Average «Country-Sector» First Instrument	0.8386		0.6548		0.8054	
	(24.73)		(19.93)		(15.98)	
CRS Average «Country-Year» 2nd Instrument	0.2877		0.6398		0.3465	
	(6.93)		(19.27)		(5.43)	
Constant	-0.7237	0.2453	-0.3254	0.2886	-0.2956	0.2269
	(-4.11)	(9.99)	(-8.76)	(9.73)	(-3.26)	(9.39)
R^2 (centered)	0.34	0.46	0.3	0.44	0.29	0.46
Durbin (Score) Chi2(1)		17.08		15.92		8.59
P value		0.0000		0.0001		0.003
Wu-Hausman		17.11		15.94		8.58
P value		0.0000		0.0001		0.003
Fisher (Weakness of Instruments)		275.048		205.725		256.042
Sargan Score		0.442		0.364		0.468
P value		(0.506)		(0.546)		(0.591)
Basman Chi2 (1)		0.442		0.462		0.466
P value		(0.5061)		(0.547)		(0.587)

4.4.3. Quantile regression

Although our model may have shown the importance of CSR activities in determining the level of cash holding, it cannot answer an important question: Do CSR activities influence the level of cash held differently for companies with low levels of liquid assets than for companies with accumulated average levels? A more complete picture of the effect of our basic predictor (CSR) on the response variable (Cash) could be obtained using quantile regression. In fact, in linear regression, regression coefficients represent the increase in the response variable produced by the increase of one predictor unit associated with the coefficient. Quantile regression parameters estimate the change in a specific quantile of the response variable produced by the change of a predictor unit. This allows us to compare how certainpercentiles of the level of cash held could be more affected by CSR activities and other financial specificities of the company than other percentiles. This is reflected in the change in the size of the regression coefficients. The results for quantile regressions at different levels are presented in the Table 10. For our base variable, the results remain unchanged. The coefficients on the CSR variable are always significant and negative except for the first quartile.

Table 10
Quantile Regression Results

Cash Measure	Positive Change(Cash/Average)	Quantile Regression		
		75%	50%	25%
$CRS_{i,t}$	-0.0023	-0.001	-0.0008	-0.0004
	(-2.43)**	(-2.12)**	(-1.97)***	(-1.52)
$NWC_{i,t}$	-0.2119	-0.268	-0.167	-0.1051
	(-10.60)***	(-19.14)***	(-15.99)***	(-12.26)***
$CapExp_{i,t}$	-0.0328	-0.124	-0.105	-0.0244
	(-2.48)**	(-2.65)***	(-2.14)**	(-1.67)*
$Resexp_{i,t}$	0.0185	0.105	0.009	0.1978
	(2.33)**	(2.84)***	(2.76)***	(7.59)***
$Tang_{i,t}$	-0.3615	-0.336	-0.312	-0.1185
	(-20.67)***	(-32.8)***	(-31.56)***	(-16.22)***
$Size_{i,t}$	-0.0097	-0.005	-0.004	-0.0006
	(-4.85)***	(-2.73)***	(-2.95)***	(-1.94)**
$NCF_{i,t}$	0.0962	0.0539	0.042	0.0383
	(2.80)***	(2.94)***	(3.05)***	-1.53
$Leverage_{i,t}$	-0.1152	-0.049	-0.051	-0.1405
	(-2.86)***	(-1.84)*	(1.98)**	(-6.32)***
$Variance_{i,t}$	0.0675	0.068	0.059	0.0549
	(2.43)***	(3.36)***	(3.59)***	(1.75)*
$Reneco_{i,j}$	-0.018	-0.029	-0.044	-0.0205
	(-1.73)*	(-1.85)*	(1.98)**	(-1.33)
Cansante	0.405	0.385	0.329	0.0913
	(11.98)***	(15.96)***	(14.56)***	-4.4

Notes: significance levels= *p<0 .10; **p<0.05 and ***p<0 .01.

4.4.4. The role of legal origin

In this part, we try to verify whether the adoption of a specific legal origin influences the relationship between CSR and cash holding. We distinguish the common law or English system, the French legal system, the German legal system and the Scandinavian legal system. Our consideration of the role of belonging to a specific legal system is inherent in the idea of investor protection. La Porta et al. (1996) noted that differences in the nature and effectiveness of financial systems around the world could be partly attributed to differences in levels of investor protection against insider expropriation, as reflected by the legal rules and the quality of their enforcement. The authors presented evidence suggesting that legal rules relating to investor protection and the quality of their enforcement differ significantly and systematically across countries. In particular, these rules vary systematically according to legal origin, namely English, French, German or Scandinavian. La Porta et al. (1996) point out that these legal systems differ in terms of investor protection by insiders. Common law protects shareholders and creditors the most, while countries adopting French civil law protect the least. Countries adopting German and Scandinavian laws are somewhere in the middle. The authors also showed that rich countries enforce laws better than the poor and that those adopting the French legal system have a poor quality of enforcement. We divided our sample into four sub-samples based on countries' adoption to a specific legal system. Test results are presented in Tables 11-12. The results achieved are consistent with what was mentioned earlier. The coefficient on the two social and environmental components of CSR remains negative and highly significant for the subsample composed of European countries

adopting English common law. This means that in the presence of good and strong governance within the company and an environment that ensures good investor protection, CSR activities negatively influence the level of cash holding. We can also note that this negative impact has become stronger in these countries. However, these two components lose their significance for the other sub-samples, except for the environmental component which remains significant in the case of countries adopting French law.

Table 11
Effect of Social and Environmental Performance

Cash Measure	Global Performance		Environmental Performance		Social Performance	
	Com-mon Law	Scandi-navian Legal System	Common Law	Scandi-navian Legal System	Common Law	Scandi-navian Legal System
CRS	-0.0034	-0.0021	0-.00389	-0.0012	-0.00489	-0.0026
	(-3.32)***	(-0.61)	(-2.80)***	(-0.76)	(-3.49)***	(-1.38)
$NWC_{i,t}$	-0.09147	-0.16345	-0.0952	-0.1638	-0.22333	-0.1627
	(-4.74)***	(-4.65)***	(-4.83)***	(-4.61)***	(-10.07)***	(-4.64)***
$Capexp_{i,t}$	-0.2680	-0.2738	-0.3025	-0.2725	-0.2784	-0.2738
	(-4.04)***	(-3.67)***	(-4.52)***	(-3.65)***	(-3.89)***	(-3.59)***
$Resexp_{i,t}$	0.5490	0.6300	0.5582	0.6292	0.5521	0.6263
	(8.16)***	(8.24)***	(8.42)	(8.24)***	(8.24)***	(8.27)***
$Tang_{i,t}$	-0.1404	-0.2226	-0.2134	-0.2208	-0.1732	-0.2218
	(-15.13)***	(-11.64)***	(-15.62)***	(-11.6)***	(-15.86)***	(-11.54)***
$Size_{i,t}$	-0.00557	-0.0051	-0.0059	-0.0059	-0.0056	-0.00597
	(-4.39)***	(-3.57)**	(-4.59)**	(-4.02)***	(-4.67)***	(-4.28)***
$NCF_{i,t}$	0.0797	-0.1358	0.083	-0.1352	0.0789	-0.0499
	(3.14)***	(-1.16)	(3.66)***	(-1.09)	(2.12)**	(-0.57)
$Leverage_{i,t}$	-0.11114	-0.1825	-0.1124	-0.1821	-0.1136	-0.18252
	(-5.12)***	(-10.28)***	(-5.28)*	(-10.30)***	(-5.24)***	(-7.63)***
$Variance_{i,t}$	0.1105	0.1670	0.1244	0.1665	0.1125	0.15551
	(2.05)**	(2.22)**	(2.20)**	(2.18)**	(2.42)**	(2.04)*
$Reneco_{i,j}$	0.1577	0.1576	0.1608	0.1576	0.1612	0.1576
	(7.21)***	(5.00)***	(7.46)**	(4.92)***	(7.34)***	(2.65)***
Canstante	0.2653	0.1376	0.2945	0.1387	0.3249	0.1447
	(6.12)	(2.32)	(6.34)	(2.65)	(6.62)***	(2.65)***
Nbr of Obs.	2447	587	2447	587	2447	587
R^2	0.43	0.57	0.43	0.57	0.44	0.57

Notes: significance levels= *p<0 .10; **p<0.05 and ***p<0 .01.

Table 12
Effect of Social and Environmental Performance

Cash Measure	Global Performance		Environmental Performance		Social Performance	
	French Legal System	German Legal System	French Legal System	Germa nLegal System	French Legal System	German Legal System
CRS	-0.00180	-0.00045	-0.00079	-0.0024	-0.00247	-0.0015
	(-2.88)***	(-0.41)	(-0.88)	(-1.02)	(-2.82)***	(-1.02)
$NWC_{i,t}$	-0.1472	-0.2361	-0.1762	-0.2402	-0.1454	-0.2455
	(-7.03)***	(-6.66)***	(-7.44)***	(-6.81)***	(-6.83)***	(-6.97)***

To be continued Table 12.

Cash Measure	Global Performance		Environmental Performance		Social Performance	
	French Legal System	**German Legal System**	**French Legal System**	**GermanLegal System**	**French Legal System**	**German Legal System**
Capexp$_{i,t}$	-0.1474 (-2.96)***	-0.2555 (-2.83)***	-0.1542 (-2.74)***	-0.2935 (-2.49)**	-0.1498 (-2.85)***	-0.2738 (-2.85)***
Resexp$_{i,t}$	0.4847 (2.77)***	0.57149 (4.56)***	0.5032 (2.94)***	0.5538 (4.89)***	0.5582 (3.05)***	0.5642 (4.71)***
Tang$_{i,t}$	-0.2218 (-12.05)***	-0.29850 (-9.15)***	-0.2402 (-11.95)***	-0.3126 (-8.91)***	-0.2134 (-12.62)***	-0.3244 (-8.78)***
Size$_{i,t}$	-0.0070 (-3.81)***	-0.00414 (-4.65)**	-0.0056 (-4.67)***	-0.00501 (-4.74)***	-0.0064 (-4.64)***	-0.00597 (-4.28)***
NCF$_{i,t}$	0.22247 (2.16)**	0.18599 (2.22)**	0.2001 (2.78)***	-0.18684 (-2.46)**	0.2317 (2.68)***	-0.2002 (-2.35
Leverage$_{i,t}$	-0.07888 (-7.15)***	-0.09361 (-3.27)***	-0.0902 (-7.32)***	-0.1031 (-2.99)***	-0.0845 (-7.24)***	-0.1557 (-2.89)***
Variance$_{i,t}$	0.2430 (3.73)***	0.06238 (0.80)	0.2532 (4.02)**	0.07546 (0.71)	0.2854 (3.87)***	0.07198 (0.92)
Reneco$_{i,j}$	0.2655 (6.71)***	0.10773 (2.35)**	0.2647 (6.52)***	0.11701 (2.21)**	0.2933 (6.24)***	0.1276 (2.36)**
Canstante	0.11292 (2.54)***	0.3656 (6.35)***	0.11989 (6.62)***	0.3352 (6.29)	0.1028 (2.98)***	0.3415 (6.49)***
Nbr of Obs.	2268	809	2268	809	2268	809
R^2	0.36	0.54	0.36	0.54	0.36	0.54

Notes: significance levels= *p<0 .10; **p<0.05 and ***p<0 .01.

V. CONCLUSION

A range of empirical studies that have focused on the concept of social responsibility have shown that corporate social responsibility actions have a significant impact on several financial aspects, such as the value of the firm, the cost of the various means of financing, the dividend policy, etc.

The purpose of this paper is to determine the effect of social performance on the policy of holding cash in European companies. The contributions of this empirical study are diverse. A first contribution is made to the literature by highlighting the link between CSR and cash holding in the specific context of Europe. Indeed, few writings are interested in the relationship in Europe (Nasr et al., 2020) were interested in the French context. Conversely, the existing literature analyzes the link in the international context (Cheung, 2016 ; Arouri & Pijouret, 2017). Considering a sample of 6,487 observations by 1,352 European companies over the period 2006-2015, our results suggest that the social responsibility actions undertaken by European companies influence their cash holding policies. The more European companies engage in social responsibility actions, the less cash is held.

Then, in order to test the moderating effect of the quality of governance and the level of investor protection on the relationship between cash holding and social performance, we combined several indices such as the level of transparency of transactions, the extent of information disclosure, the possibility of legal action against shareholders and the level of corruption control. The consideration of both aspects of CSR (social and environmental) and the moderating effect of the indicators mentioned is a new contribution to the literature.

We have also tried to test the variation of our basic relationship according to the different legal systems in the context of Europe. We distinguish the common law or English system, the French legal system, the German legal system and the Scandinavian legal system. Consideration of the legal origin of European countries is a new contribution to the literature. The results of the study show that the socially successful companies in countries adopting English common law hold less cash.

There are limitations to this study of research on the relationship between corporate social responsibility and cash holding in the European context. These limits are of various kinds. Concerning the sample, the financial data and the extra-financial information are incomplete, in particular in the countries of eastern Europe (Czech Republic, Slovakia, Poland, Romania, Lithuania, Hungary and Croatia). The number of companies from these countries included in the sample is very limited compared to companies from continental Europe (Germany, Austria, Belgium, France, Scandinavian countries, the Netherlands, Spain and Italy) and from Europe Anglo-Saxon (Ireland and Great Britain). Regarding the duration of the study, the overall period was marked by the occurrence of the economic and financial crisis of 2007, which had a considerable impact on the economic and financial environment in Europe. One therefore wonders if it would be wiser to divide the overall period into two sub-periods. Finally, another limitation relates to the quality of the extra-financial information used. We based our study on the CSR scores provided by MSCI. One wonders about the quality of these data and their homogeneity with the information provided by other data providers. Will we get the same results if we used data provided by another data provider?

Our research provides a better understanding of how social performance influences corporate cash holding policy. On the other hand, it is too specific to the European region. One wonders about the scope of these results in the American or Asian context where several characteristic variables of these markets differ from Europe, such as the corporate culture. Such a comparison could be the subject of further research.

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Variable Definition

Variables	Definition
Cash	The ratio of cash to total assets
Cash (alternative measure)	The ratio of cash and cash equivalents to net assets, where net assets is difined as total assets minus cash and cash equivalents
CRS	The IVA (Intagible Value Assessment) scores provided by MSCI (Morgan stainly capital international)-ESG research
SOC	Social rating provided by MSCI-ESG research. These scores measure the social performance of companies.
ENV	Environmental rating provided by MSCI-ESG research. These scores measure the environmental performance of companies.
NWC	Working capital net of cash and short term investments/total assets
Capex	Capital expenditure/total assets
Resexp	Research and development expense/total assets
Tang	Tangible assets/total assets
Size	Natural logarithm of book value of total assets
NFC	Net Cash Flow
Leverage	Total debt divided by total assets
Variance	Standard deviation of cash flow over the past 10 years
Reneco	Earnings before interest and taxes
The Corruption Control Index	Highlights perceptions of the extent to which public power is exercised for private purposes, including minor and major forms of corruption, as well as the control of elites and interests over the state.
The Government Effectiveness Index	Captures perceptions of the quality of the public service and its degree of independence from political pressures, the quality of public policy development and implementation, and the credibility of the government with respect to those policies.
The Political Stability Index	Reflects perceptions of the likelihood of political instability, or/and politically motivated violence, including terrorism.

To be continued Variable Definition.

Variables	Definition
The Rule of LawIndex	Highlights the perceptions of the extent to which agents trust and respect the rules of society and, in particular, the quality of performance of contracts, property rights, police and courts, and the likelihood of criminal acts and violence
The Quality of Regulation Index	Captures perceptions of the government's ability to formulate and implement sound policies and regulations that enable and support private sector development.
The Voice and Accountability Index	Indicates perceptions of the extent to which citizens of a country can participate in the choice of their government, as well as freedom of expression, associations and the media.
Investor Protection	Overall level of investor protection.
Governance	Governance scores assigned by MSCI ESG research, which assess companies according to four main criteria, namely boards of directors, ownership and control, pay and accounting practices.