

# Investor relations on the internet: a survey in the Euronext zone

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## Research note

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# Investor relations on the Internet: a survey of the Euronext zone

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### **ABSTRACT**

This study investigates the investor relations activities on the Internet of companies listed on the Euronext stock exchange. For this purpose, the websites of the fifty largest listed companies in each of the countries Belgium, France and the Netherlands were screened for investor relations items. Results obtained by using a three-stage model show that most companies in the Euronext zone are at the second stage of Internet investor relations, i.e. where information available through other sources is combined to better inform investors. In the third stage companies use the full interactive possibilities of the Internet for investor relations purposes. French and Dutch companies use the Internet for investor relations purposes more widely and more intensely than Belgian companies. The study also revealed a size effect; large companies use the Internet for investor relations purposes more extensively than smaller companies. This conclusion holds for each of the three countries. The leading companies in France and the Netherlands are either at the third stage of Internet investor relations or are ready to move to this stage.

### **1. INTRODUCTION**

The Internet has become increasingly important to companies – not only for marketing purposes, where the Internet is an important medium used to promote

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company products, but also for financial purposes. This study investigates the use of the Internet for investor relations purposes by companies listed on the pan-European stock exchange Euronext (i.e. public companies).<sup>1</sup> Based on market capitalization, Euronext is the second largest European stock exchange; it is smaller than the Deutsche Börse, but larger than the London Stock Exchange.<sup>2,3</sup>

The aim of this study is threefold. First, to present a research overview of empirical work focusing on investor relations activities on the Internet. Most previous studies provide only partial analysis of Internet investor relations, while this study aims to present a more complete picture. Second, to provide an extended descriptive tool based on Deller *et al.* (1999) that can be used as a research instrument to determine companies' use of the Internet for investor relations purposes. The third aim is to present evidence of investor relations activities on the Internet in the three Euronext countries, using the aforementioned model. Evidence is currently either non-existent (Belgium) or rather limited (France and the Netherlands; see Lymer *et al.*, 1999).

## **2. THEORY AND PREVIOUS RESEARCH**

Marston (1996: 477) defines investor relations as 'the link between a company and the financial community, providing information to help the financial community and the investing public evaluate a company'. Companies use a multi-channel approach to inform their investors. Information is traditionally communicated via financial reports, press releases, road shows and in analyst meetings. The Internet can be used to provide investors with a copy of the traditional paper-based annual report, but it also offers new opportunities to present and communicate information. These include technology-specific presentation advantages, the use of cookie technology, and direct forms of communication, such as mailing lists and online participation (Deller *et al.*, 1999). The advantages of providing information to investors via the Internet are: speed, lower costs and the possibility of reaching large groups of investors.

The findings of previous research are presented here based on a modified version of Hedlin's (1999) three-stage model,<sup>4</sup> which describes the three stages of investor relations on the Internet. The first stage is the Internet presence, offering general company information. The second stage, which is more interesting for investors, involves using the Internet to communicate investor information. Finally, in the third stage, a company can exploit the Internet for the specific advantages it offers. In this study, three further groups of Internet activities were recognized within the third stage. All studies discussed are from the time frame 1995–99. In the following discussion all data apply to 1998 unless indicated otherwise.

### **Stage I: (1) Annual and interim reports on the Internet**

In the first stage of the model, the focus is on the disclosure of full annual reports, on interim reports and on standalone financial information that has already been

published on paper. US companies were among the first to engage in this form of Internet investor relations. In an early study using data from 1995–96, 31% of US listed companies published their full financial report on the Internet (Petraevick and Gillett, 1996). In 1998, 45% of US companies provided their full annual report on their websites, and 54% published quarterly reports (Ettredge *et al.*, 2001). At that time, 33% of UK companies published their full annual report and 20% presented part of their report (Craven and Marston, 1999). Similar results were found for German companies, of which 46% presented their balance sheet and 15% presented an historical overview of financial statements (Deller *et al.*, 1999). Lymer *et al.* (1999) found that, in 1999, German and UK companies still used the Internet less extensively than US companies, as far as presenting their balance sheet, profit and loss account, cash flow statement and notes to their financial statements were concerned. In 1998, 9% of Spanish companies provided some financial information on the Internet, with 4% publishing their full annual report and 3% supplying interim reports (Gowthorpe and Amat, 1999). For Sweden, 83% of companies presented some financial information, and a ‘majority’ of the companies disclosed the full annual report (Hedlin, 1999). In Ireland (1999), 38% of companies published the full annual report (Brennan and Kelly, 2000). Also in 1999, Lymer *et al.* (1999) investigated financial reporting on the Internet with respect to twenty-two countries. The proportion presenting their balance sheet ranged from 7% in Malaysia, increasing to 77% in Canada. Profit and loss accounts were found in 10% of the sample (Malaysia) up to 83% (Canada); cash flow statements in 3% of the sample (Singapore) rising to 73% (Canada) and notes to the accounts in 0% (Singapore and Chile) to 57% of the sample (US).

## **Stage II: (2) Press releases and further information services on the Internet**

In the second stage of the model, the Internet is used to provide specific information for investors that separately is also available through other sources. The information provided is specifically aimed at investors both in terms of content (e.g. financial news, share prices) and structure (e.g. financial calendars), and the Internet is used as a medium to combine existing sources of information, so that investors may be better informed.

Most companies in the US (80%), UK (65%), Germany (61%) (Deller *et al.*, 1999) and Sweden (82%) (Hedlin, 1999) included press releases on their websites in 1998. In a second study similar results were found for the US (80%) (Ettredge *et al.*, 2001). In 1999, Irish companies provided press releases on the Internet to a lesser extent (45%) (Brennan and Kelly, 2000).

Financial calendars were more often found in Germany (28%) than in the UK (13%) and the US (8%) (Deller *et al.*, 1999). The score for the US is confirmed in a second study (12%) (Ettredge *et al.*, 2001). Similar results (12%) were found for Irish companies in 1999 (Brennan and Kelly, 2000).

On the other hand, US companies offered the current share price on their websites (70%) more often than UK (21%) and German (32%) companies (Deller *et al.*, 1999) while Sweden, again, took a median position, as nearly half of the Swedish companies (48%) had placed their current share prices on their websites (Hedlin, 1999), followed by Ireland, where (in 1999) 21% of the companies provided this information (Brennan and Kelly, 2000). In contrast, in Spain only one company, in a sample of 379 companies, reported its current share price (Gowthorpe and Amat, 1999). Note that, in another study, the US scored significantly lower as far as providing the current share price was concerned (15%) (Ettredge *et al.*, 2001). However, in the latter study, the companies were smaller than those in the Deller *et al.* (1999) study and this may explain the differences observed.

### **Stage III: (3) Presentation advantages of the Internet**

The third stage of the model refers to the use of specific advantages offered by the Internet. One area of potential advantage is the way information can be approached and presented on the Internet. This includes the use of hyperlinks, the use of specific file formats,<sup>5</sup> internal search engines, cookie technology,<sup>6</sup> the possibility of changing the language in which the information is offered, and the possibility of downloading files.

More UK companies (27%) used hyperlinks than US (6%) and German companies (9%) (Deller *et al.*, 1999). Swedish companies held a median position, with 12% using hyperlinks on their websites (Hedlin, 1999). On most other elements that are typical for this stage, US companies seem to have a leading edge over their Western European counterparts. Corporate reports in PDF format were more often found in the US (32%) and the UK (25%) than in Germany (12%) (Deller *et al.*, 1999). Internal search engines were also found in the US (65%) more often than in the UK (24%) and Germany (30%) (Deller *et al.*, 1999). Financial data in an interactive format (e.g. spreadsheet files) was relatively scarce in all three countries (US: 12%; UK: 4%; Germany: 5%) (Deller *et al.*, 1999). This finding also holds for the use of cookies (US: 24%; UK: 9%; Germany: 4%) (Deller *et al.*, 1999).

With regard to the use of bilingual websites, in Spain only 7% of the corporate websites offered information in both Spanish and English (Gowthorpe and Amat, 1999), while in Sweden 80% presented their websites in English and Swedish (Hedlin, 1999). Finally, in 1998, 12% of the Swedish companies offered users the opportunity to download files (Hedlin, 1999).

### **Stage III: (4) Direct contact via e-mail and mailing lists**

Another advantage of the Internet is the possibility of making direct contact with individual investors or groups of investors through e-mail or mailing list facilities. E-mails to the investor relations departments could be sent more often in the US

(31%) than in the UK (29%) and Germany (22%) (Deller *et al.*, 1999), with Ireland following closely in 1999 (19%) (Brennan and Kelly, 2000). The possibility of being added to a mailing list was still a scarce feature in 1998 (US: 11%; UK: 4%; Germany: 8%) (Deller *et al.*, 1999), as were 'frequently asked questions', although these were found more often in the US (28%) than the UK (6%), Germany (5%) (Deller *et al.*, 1999) and Ireland (3%) (Brennan and Kelly, 2000). Finally, German companies (33%) included an online investor information order service more often than US (15%) and UK companies (16%) (Deller *et al.*, 1999), with Irish companies, in 1999, in the middle (19%) (Brennan and Kelly, 2000).

### **Stage III: (5) Video/audio recordings and online participation in meetings**

A final advantage of the Internet is the option to engage in interactive activities with investors, for example by facilitating online sessions. In the US, UK and Germany only a few companies offered presentations of meetings, while no indication of online participation was found (Deller *et al.*, 1999). In the US, 9% of the companies published speeches by company executives (Ettredge *et al.*, 2001). In 1999, only a small number of Irish companies offered videos (5%) and other presentation materials (6%) (Brennan and Kelly, 2000). Overall, presentations of meetings (video or other material) were rarely found.

### **Final observations and conclusions from previous research**

Several studies showed a size effect, suggesting that large companies use the Internet more intensively for investor relations purposes than their smaller counterparts. In the UK there was a significant positive relationship between the size of a company and the extent of financial disclosure on the Internet (Craven and Marston, 1999). In Austria, there was a positive relationship between the quality of the website on the one hand, and the size of the company and the percentage of free float of the company's shares on the other (Pirchegger and Wagenhofer, 1999). There was some tentative evidence of an industry effect. In Spain, certain sectors such as the insurance sector, the automobile sector and the electricity and gas sectors, were more likely to have a website, but there were no systematic differences between groups of sectors such as production versus services (Gowthorpe and Amat, 1999: 368).<sup>7</sup> In the UK no significant relationship was found between the type of industry and financial disclosure on the website (Craven and Marston, 1999).

Based on the empirical evidence available, some general conclusions on Internet investor relations activities can be drawn:

- The advantages of the Internet over traditional paper-based reports are only partially used.

- English-speaking countries (US, UK, Ireland) outperform most continental European countries (Austria, Germany, Spain) on many dimensions of Internet investor relations.
- There are indications of a size effect. Larger companies seem to use the Internet for investor relations purposes more often and they tend to have better quality websites.
- There is some tentative evidence for the existence of an industry effect.
- Only a few companies have entered the third stage of Internet investor relations. In countries such as the US, UK and in some Western European and Scandinavian countries, a considerable percentage of companies have moved into the second stage. With respect to the first stage, the head start that US companies had in the mid-1990s has gradually disappeared, and many companies across the aforementioned countries have started initiatives in Internet investor relations. Nevertheless, even with respect to the first stage of Internet investor relations, sizeable differences across countries continue to exist.

### **3. SAMPLE, RESEARCH INSTRUMENT AND METHOD**

This study deals with investor relations activities on the Internet by the fifty largest listed companies in each of the countries Belgium, France and the Netherlands.<sup>8</sup> The actual screening of the corporate websites in the sample took place during the second half of November and the first half of December 2001. The research instrument of this study is based on the one used by Deller *et al.* (1999). Based on the review of literature and the initial screening of a number of websites, the research instrument was extended with the items: environmental and/or social reports, corporate reports of previous years, corporate reports in XBRL (extensible business reporting language) format, the use of multilingual possibilities, the presentation of the organizational structure, external links, the last update within twenty-four hours and presentations by company executives. The instrument matches the three stages of Internet investor relations and consists of five main categories, each covering a number of additional items.<sup>9</sup> A content analysis was used to study the websites in the sample for their investor relations dimensions (Weber, 1985).<sup>10</sup>

### **4. EMPIRICAL FINDINGS**

From the initial identification of websites, it can be concluded that Euronext listed companies show a high degree of use of the Internet as a vehicle for improving investor relations. In France (94%) and the Netherlands (92%), more companies used the Internet for investor relations purposes than in Belgium (70%).<sup>11</sup> The next step in the study consisted of a detailed investigation of the contents of the websites. All empirical results are summarized in Table 1.

Table 1 Empirical results (per cent)

<i>Stage and items</i>	<i>Bel.</i>	<i>Fr.</i>	<i>Neth.</i>	<i>Big45</i>	<i>Sml45</i>
<b>Stage I: (1) Annual and interim reports on the Internet</b>					
Balance sheet	92	96	96	98	87
Profit and loss account	92	96	96	98	87
Notes	88	92	96	98	87
Cash flow statement	58	78	96	82	71
Interim reports	86	94	98	96	87
Environmental and/or social reports	12	22	24	36	4
Corporate reports of previous years	38	66	52	80	38
Financial data time series	24	10	28	27	16
Selective accounting data	92	94	100	96	91
<b>Stage II: (2) Press releases and further information services on the Internet</b>					
Press releases	92	96	100	98	91
Financial calendar	64	62	76	71	53
Current share price	66	90	70	71	69
Organizational structure	42	26	42	51	22
External links	82	86	88	87	82
Last update within 24 hours	18	36	46	49	13
<b>Stage III: (3) Presentation advantages of the Internet</b>					
Accounting data hyperlinked	4	0	6	4	2
Corporate reports in PDF format	88	94	94	98	87
Financial data in processable format	8	20	14	22	9
Corporate reports in XBRL format	0	0	0	0	0
Multilingual	54	78	44	71	56
Internal search engine	48	66	64	71	49
Cookies	30	34	34	42	38
<b>Stage III: (4) Direct contact via e-mail and mailing lists</b>					
E-mail option to investor relations dept	62	88	82	87	71
Mailing list	42	68	62	60	44
Frequently asked questions	20	40	46	40	24
Online investor information order service	42	38	62	40	44
<b>Stage III: (5) Video/audio recordings and online participating in meetings</b>					
Online participating in meetings	0	0	8	7	0
Video/audio recordings of meetings	12	48	54	56	27
Presentations of company executives	46	94	88	93	56
<b>Mean score (all 29 items)</b>	<b>48</b>	<b>59</b>	<b>61</b>	<b>63</b>	<b>48</b>

*Notes:*

Bel.: Belgium; Fr.: France; Neth.: Netherlands; Big45: 15 largest companies in each of the countries Belgium, France and the Netherlands; Sml45: 15 smallest companies in each of the countries Belgium, France and the Netherlands. In columns 2, 3 and 4 the percentages are taken in relation to the sample per country ( $N=50$ ).

**Stage I: (1) Annual and interim reports on the Internet**

The first stage of the Hedlin model relates to the disclosure of full annual reports, interim reports and standalone financial information that has already been published on paper. The results of the study show that balance sheets, profit and loss accounts, notes and interim reports were published very frequently (B: 86–92%; F: 92–96%; N: 96–98%). Cash flow statements were reported more often in France and the Netherlands than in Belgium (B: 58%; F: 78%; N: 96%). Up to a quarter of the companies published an environmental and/or social report on the Internet (B: 12%; F: 22%; N: 24%). One possible explanation for these results is that this kind of reporting is relatively new in comparison with traditional financial reporting. There was a substantial difference in disclosure of corporate reports from previous years between French and Belgian companies, with Dutch companies in between (B: 38%; F: 66%; N: 52%). On the other hand, only a few French companies published historical financial data on their websites, whereas in Belgium and the Netherlands this was a more common phenomenon (B: 24%; F: 10%; N: 28%). Finally, selective standalone accounting data were presented by nearly all companies (B: 92%; F: 94%; N: 100%).

**Stage II: (2) Press releases and further information services**

Almost all companies included press releases on their websites (B: 92%; F: 96%; N: 100%). A financial calendar was also a common feature (B: 64%; F: 62%; N: 76%), although it was found less often than press releases. French companies placed their current share price on their website more often than companies in Belgium or the Netherlands (B: 66%; F: 90%; N: 70%). However, the opposite results were found for information on organizational structure (B: 42%; F: 26%; N: 42%). External links to other sites were found on most websites (B: 82%; F: 86%; N: 88%). Finally, Belgian websites were less often updated within twenty-four hours than their French and Dutch counterparts (B: 18%; F: 36%; N: 46%).

**Stage III: (3) Presentation advantages of the Internet**

One advantage of the Internet is the use of hyperlinks to structure the navigation within the information provided to investors. Such hyperlinked structures were rarely found (B: 4%; F: 0%; N: 6%). Another option is that reports can be offered in different formats, each with specific advantages. The PDF format is the most common way of presenting a report on the Internet, and most of the companies presented their information in this format (B: 88%; F: 94%; N: 94%). Data in processable format and XBRL format are more user-friendly. The first format was found only occasionally (B: 8%; F: 20%; N: 14%) and the second was not found at all.<sup>12</sup> Presenting the website in more than one language is also an element of user-friendliness. Multilingual websites were most often found in France, followed by Belgium and the Netherlands (B: 54%; F: 78%; N: 44%). The

relatively low percentage in the Netherlands can be explained by the fact that many Dutch companies only have an English version of their website and no localized Dutch version. Most French companies, on the other hand, present their information both in French and English. Internal search engines were most often found on French and Dutch websites and, to a lesser extent, on Belgian websites (B: 48%; F: 66%; N: 64%). Finally, cookie technology was used almost equally in all three countries (B: 30%; F: 34%; N: 34%).

### **Stage III: (4) Direct contact via e-mail and mailing lists**

This section concerns the extent to which investors can interactively communicate with companies via the Internet. Most of the websites included an option to send an e-mail to the investor relations department (B: 62%; F: 88%; N: 82%). The use of a mailing list (B: 42%; F: 68%; N: 62%) and frequently asked questions (B: 20%; F: 40%; N: 46%) showed basically the same pattern. Online investor information order services were more often found in the Netherlands than in Belgium and France (B: 42%; F: 38%; N: 62%).

### **Stage III: (5) Video/audio recordings and online participation in meetings**

Companies are apparently not yet ready for online participation in meetings. None of the companies in France and Belgium offered this form of communication, and only 8% of those in the Netherlands. Furthermore, around half of the French and Dutch companies placed video or audio recordings of meetings on the Internet, compared with only a small proportion of the Belgian companies (B: 12%; F: 48%; N: 54%). Presentations by company executives show the same pattern. Nearly all companies in France and many in the Netherlands placed these presentations on the Internet, while in Belgium only around half the companies did so (B: 46%; F: 94%; N: 88%).

### **Country, size and industry effects**

Belgian companies use the Internet for investor relations purposes to a lesser extent than French and Dutch companies. Of the 29 items investigated in this study, on average Belgian companies offer 14 items (48%) on the Internet, French companies 17 items (59%) and Dutch companies 18 items (61%). Note that the items are unweighted and therefore the scores only give a first impression of the quality of Internet investor relations (see Table 1).

The research overview in Section 2 mentioned the existence of a size effect for the UK and Austria. This size effect was also studied for the Euronext companies. The 15 largest and 15 smallest companies (based on market capitalization) were taken from each country. This resulted in two sub-samples: 45 large and 45 small companies. The large companies scored higher on almost all items in comparison

with the smaller companies. As Table 1 shows, large companies more often provide environmental and/or social reports on their websites than smaller companies (36%–4%). This is also true for corporate reports from previous years (80%–38%). There were also large differences for financial data in processable format (22%–9%) and internal search engines (71%–49%). Information on the organizational structure (51%–22%) and the last update within 24 hours (49%–13%) showed similar differences. In addition, video or audio recordings of meetings (56%–27%) and presentations by company executives (93%–56%) were found more often on the websites of large companies. Overall, large companies (on average) offer 18 of the 29 items investigated (63%) on their websites versus (on average) 14 items (48%) for small companies. This size effect also partially explains the Belgian results, because Belgian companies are generally smaller than French and Dutch companies. Eliminating the size effect by comparing companies of equal size, the differences between Belgian and French companies virtually disappear and only one single item (the reporting of current share prices) is significantly less present among Belgian companies compared to equally sized French companies. On the other hand, differences between equally sized Belgian and Dutch companies to a large extent continue to exist, most dominantly within categories 4 (direct contact via e-mail and mailing lists) and 5 (video or audio recordings of meetings and online participation in meetings). A comparison of Dutch versus French companies of equal size, shows no effects compared to the results for the full sample.<sup>13</sup>

The existence of an industry effect was also investigated, but no such effect was found.<sup>14</sup>

## 5. CONCLUSIONS

This study investigated the extent to which the Internet is used as a vehicle for investor relations in the Euronext zone. In comparison with existing studies in this area, in general a further growth in Internet investor relations activities can be observed. Corporate annual reports and interim reports were found on the websites in all three countries. There was a marked increase compared to the results of previous research (Lymer *et al.*, 1999). Press releases were found on the websites of almost all companies in the three countries, which was also the case in previous studies that focused on other countries (e.g. Deller *et al.*, 1999; Hedlin, 1999). French and Dutch companies showed better results regarding direct contact via e-mail and mailing lists than Belgian companies. This form of communication is significantly better developed in comparison with previous research (Deller *et al.*, 1999; Brennan and Kelly, 2000). Online participation in meetings was still a rarity. In comparison with previous research (Brennan and Kelly, 2000; Deller *et al.*, 1999), presentations of meetings were found relatively more often.

In general, the Internet is seen as an important vehicle in investor relations throughout the Euronext zone, though it is not yet fully exploited for this purpose. A great deal of financial information is published on the Internet, but in many

cases this is a duplicate of the paper-based report. Specific advantages of the Internet, such as using hyperlinks for navigation and sophisticated formats, usually are not implemented. Furthermore, the extent of direct communication with investors can also be expanded. Technically it is possible to participate in meetings online, but this form of communication was rarely offered on the websites studied.

This study describes three stages of investor relations activities on the Internet. A few years ago many continental European companies were either at the end of the first stage or at the beginning of the second. This study shows that many companies in the Euronext zone are now situated in the middle or at the end of the second stage, and that they are ready to move on to the third stage. French and Dutch public companies seem to move into the third stage faster than Belgian public companies. During the third stage, the website includes all kinds of multimedia features, such as sound, video and possibilities for online participation in meetings. In the third stage, investor relations involves creating long-term interactive relationships centred around the corporate website.

The globalization of capital markets will force companies to compete for capital on a larger scale. To accomplish this, companies are likely to strengthen their investor relations policies. On the offensive side, they need to intensify their investor relations activities to attract potential investors in new geographic areas. On the defensive side, they need to intensify their relations with existing investors, because foreign competitors are likely to enter their home markets in their search for capital. Given the need to enhance investor relations activities, more companies will probably move into the third stage of Internet investor relations in the near future.

## NOTES

- 1 Euronext was founded in September 2000 by a merger of the stock exchanges of Brussels (Brussels Exchanges or BXS), Paris (ParisBourse) and Amsterdam (Amsterdam Exchanges or AEX). The Portuguese stock market (BVL) and the London International Financial Futures and Options Exchange (Liffe) joined Euronext in 2002, after the period of this study. See also [www.euronext.com](http://www.euronext.com)
- 2 Market capitalization (as of 17 December 2001 in € billion): Deutsche Börse: 4,243; Euronext: 2,256; London Stock Exchange: 1,947 (*source*: Beursplein 5, 2001).
- 3 The Portuguese stock market joined Euronext after the period of this study, therefore, Portuguese companies were not included.
- 4 In some studies (Deller *et al.*, 1999; Gowthorpe and Amat, 1999; Brennan and Kelly, 2000), the results are based on the number of companies in the sample that actually engage in Internet investor relations activities, while in other studies the total number of companies in the sample are used as a base of reference. In this study all percentages presented are based on the total number of companies in the sample. To do this some percentages presented in the original studies had to be recalculated.
- 5 For example, PDF format, spreadsheet formats or XBRL format (see also Lymer *et al.*, 1999).
- 6 A cookie is information for future use that is stored by a server on the client side of a client/server communication. Typically, a cookie records the user's preferences when

- using a particular site. They can, e.g., be used to customize pages based on information gathered from previous visits to the same website (see also Deller *et al.*, 1999).
- 7 Note that in the study by Gowthorpe and Amat (1999), there were only a few observations in some industry sectors.
  - 8 For Belgium, the Bel20 (20 companies) and the 30 next largest companies, based on market capitalization, were taken. For France, the CAC40 (40 companies) was expanded with the 10 next largest companies, also based on market capitalization. For the Netherlands, the AEX companies (25 companies) and the Midkap companies (25 companies) were selected. All data on market capitalization are from 31 August 2001 (*source*: [www.euronext.com](http://www.euronext.com)). An overview of companies in the sample is available from the authors upon request.
  - 9 The instrument was tested in a pilot study focusing on five websites in each of the three countries. Consequently, some minor final modifications were made, including the exclusion of the item 'corporate reports in 20-F format'. The research instrument is available from the authors upon request.
  - 10 The first author served as the first coder. Codings that appeared problematic were discussed for consensus by the three authors prior to assigning a code.
  - 11 Almost all companies in the sample had a website. One company in Belgium and one in France did not. For another Belgian company there was an indication that there was a website, although this site could not be accessed during the research period. It was therefore assumed that this company did not have a website.
  - 12 For examples of sites containing XBRL techniques, see [www.xbrl.org](http://www.xbrl.org)
  - 13 This analysis was based on a set of sub-samples of companies of roughly equal size. The first sub-sample included seventeen Belgian companies (average market cap: €8,062 million; std: €6,407 million) and 27 French companies (average market cap: €8,258 million; std: €2,844 million). A second comparison was made between 39 Dutch companies (average market cap: €2,816 million; std: €3,435 million) and 48 Belgian companies (average market cap: €2,412 million; std: €3,524 million). The comparison between French and Dutch companies is based on a sub-sample consisting of 20 Dutch companies (average market cap: €14,289 million; std: €12,301 million) and 42 French companies (average market cap: €13,754 million; std: €9,405 million).
  - 14 For this purpose, the companies in the sample were assigned to one of two industry groups: (1) production and retail and (2) services and telecommunications. Using a series of chi-square tests, no systematic differences between the two sub-groups could be detected. Out of a total of 29 items tested, production and retail companies scored significantly better on environmental and social reporting ( $\alpha = 0.015$ ), financial data times series ( $\alpha = 0.059$ ) and online investor ordering information ( $\alpha = 0.001$ ), whereas services and telecom companies scored significantly better on providing corporate reports of previous years ( $\alpha = 0.015$ ) and cash flow data ( $\alpha = 0.001$ ). All other items showed no significant differences.

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