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Abstract

Purpose – The purpose of this paper is to investigate the impact of the US Securities and Exchange Commission (SEC) accelerated deadline on foreign firms, and the 20-F filing practices and factors relating to the filing lags.

Design/methodology/approach – The authors identified 338 firms that file 20-F reports with the SEC during the period of 2010 and 2011. The authors then used multivariate regressions to examine the effects of the shortened deadline on foreign firms' filing practices and the factors associated with these practices. In the regression models, the authors also control for other firm characteristics that have shown to affect the filing lags of US firms such as firm performance, size, mergers and restructures, audit firm, compliance with internal control requirements under Sarbanes Oxley Act, internal control weaknesses, going concern audit opinion and operating complexity.

Findings – Based on a sample of 338 US-listed foreign firms, the results indicate that there is a significant reduction in the filing lags and a change in their distribution for fiscal year 2011, as compared to the preceding year, and as intended by the SEC. The authors also find that 20-F filing lags are negatively related to the use of International Financial Reporting Standards (IFRS) or US-GAAP in 20-F reports and use of the English language in foreign firms' home countries.

Practical implications – The findings of this paper are of interest to accounting regulatory bodies including the SEC, US Financial Accounting Standards Board and the International Accounting Standards Board by showing that registrants respond positively to regulations intending to promote timeliness of accounting disclosures and reporting, although many firms may oppose them in the due process stage.

Originality/value – The authors contribute to the extant literature by providing new evidence that 20-F filing lags are negatively related to the use of IFRS or US-GAAP in 20-F reports, and the use of English language in foreign firms' home countries.

Keywords 20-F, Filing lags, Legal bonding

Paper type Research paper

1. Introduction

American depositary receipt (ADR) is an effective way for foreign firms to list their shares on US stock exchanges. In the past, foreign firms with ADR listings on major US stock exchanges have to file their annual Form 20-F reports with the Securities and Exchange Commission (SEC) within six months after their fiscal year end. Frost and

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Kinney (1996) examine the disclosure practices of US-listed foreign firms in the USA and find that about half of their sample firms filed their 20-F reports within days of the six-month deadline. In 2008, the SEC, to encourage foreign firms to provide timelier and, thus, more useful information to USA investors, shortened the filing deadline to four months after the firm's fiscal year end (SEC, 2008b). This study examines the impact of the accelerated deadline on firms' 20-F filing practices and their determinants.

Initially, the SEC had proposed in 2008 a more stringent filing deadline of three months after the fiscal year-end for large accelerated and accelerated foreign firms (SEC, 2008a)[1]. All other foreign firms would have had four months to file their 20-F reports. The SEC (2008a) believes that changes in the global market place and advances in information technology have made it easier to gather, process and disseminate information more expeditiously. In addition, the elimination of US-GAAP reconciliation for firms using International Financial Reporting Standards (IFRS) in their 20-F reports should allow foreign firms to file their 20-F reports earlier.

As foreign firms had previously filed their 20-F reports very close to the six-month filing deadline, it is expected that the SEC's new regulation will have a significant impact on foreign firms' filing practices. Not surprisingly, many foreign firms, law firms and public accounting firms were opposed to the SEC proposal. The cardinal complaint was that the SEC proposal would create many challenges for foreign firms, given their local reporting customs. As a result, large accelerated and accelerated foreign filers may have to file their 20-F reports in the USA before their annual reports are being filed in their home countries. Below is an excerpt from the comment letter of KPMG to the SEC[2]:

> We note that the statutory filing deadlines in many home jurisdictions, such as in the European Union, fall within 120 days from the issuer's fiscal year end. However, we recognize that certain jurisdictions may have statutory deadlines that either fall beyond 120 days or require additional actions such as shareholder approval prior to the statutory filing with a minimum shareholder notice period (e.g. 30 days), such as in Brazil. The proposal to accelerate filing deadlines from six months to 90 or 120 days may result in SEC filing dates overriding local filing deadline so that an entity's reporting timeline is driven by USA rather than local filing and audit requirements.

Translation of the financial reports from foreign languages to English is cited as an additional impediment associated with the accelerated 20-F filing deadline (SEC, 2008b). Also, foreign firms not using US-GAAP or IFRS still would have to provide US-GAAP reconciliations.

Weighing carefully all of the above arguments, the SEC finally reached a compromise requiring all 20-F reports to be filed within four months after the fiscal year-end regardless of firm size (SEC, 2008b). The accelerated filing deadline is effective for fiscal years ending on or after December 15, 2011. Thus, foreign firms with a December 31, 2011 fiscal year-end had to file their Form 20-F by April 30, 2012. If a firm fails to file the Form 20-F on time, it can file NT 20-F for a 15-day extension. Meanwhile, the SEC asserts that it "will continue to monitor market developments to consider whether it would be appropriate to accelerate further the due date for Form 20-F annual reports" (SEC, 2008b, p. 31).

The objectives of this study are threefold. First, we examine the impact of the SEC's decision to accelerate the Form 20-F filing deadline on foreign firms' filing practices. The new accelerated deadline effectively changes the maximum filing lag from about 180 days to 120 days and should have a significant impact on firms' filing lags. Filing lag is defined as the number of days between the fiscal year-end date and the 20-F report filing date. Specifically, we investigate whether the shortened new filing period has initiated differences in filing concentration in 2011 as compared to 2010, under the old guidelines. Filing patterns of foreign firms' 20-F reports under the new accelerated deadline have yet to be addressed in the literature. Second, we conduct a multivariate analysis, with several control variables, to further understand the factors associated with 20-F filing lags. Prior studies have examined Form 10-K filing lags among US firms (Alford *et al.*, 1994; Ettredge *et al.*, 2006; Impink *et al.*, 2012). In general, prior research finds that the filing lag among US firms is associated with many fundamental firm characteristics such as firm size, profitability, operating complexity and audit opinion. However, we are unaware of any study that examines factors associated with 20-F filing lags. In addition to fundamental firm characteristics, there are three unique factors that may also affect 20-F filing lags. One would expect that the SEC's dispensation in 2007 of the reconciliation requirement for foreign filers using IFRS or US-GAAP in their 20-F reports ought to reduce the filing lags. On the other hand, the need to translate annual reports from foreign languages to English may increase filing lags. In addition, the foreign firms' home country legal strength should be an important driver in the firm's timely filing.

Third, we address the question of whether foreign firms' legal bonding is a significant factor in motivating timely filings of 20-F reports. Legal bonding, which refers to the mechanism whereby foreign firms subject themselves to strong US regulations, is considered a key reason for US listings by foreign firms on major US stock exchanges (Stulz, 1999; Coffee, 2002). Differences in legal strength of US-listed foreign firms' home countries can affect the filing lags of 20-F reports. Parenthetically, it is noteworthy that the SEC (2008b) in its new promulgation on 20-F filing deadlines also requires that foreign filers disclose significant differences in their corporate governance practices relative to US domestic firms. However, this bonding mechanism has been found to be ineffective in prior studies. For example, Lang *et al.* (2006) find that firms from countries with weaker investor protections engaged in stronger earnings management in the reconciled US-GAAP earnings reported in their 20-F filings. This finding suggests that US-listing by itself does not ensure the same quality of disclosure policy among US-listed foreign firms as with domestic US firms.

The results of this study provide important information on the impact of the accelerated 20-F filing deadline on foreign firms' 20-F filing practices. More specifically, our findings provide empirical evidence on whether the accelerated filing deadline has affected the distribution of foreign companies' 20-F filings and, thus, would have significant implications for investors and regulators regarding firms' compliance with this shortened deadline[3]. The results also would confirm whether the drivers of US-listed foreign firms' 20-F filing lags are similar to those factors documented in prior research for the 10-K filing lags of US firms. Additionally, the empirical results on the relationship between the foreign firm's home country legal strength and its 20-F filing lag will shed further light on the validity of the legal bonding argument for US-listed foreign filers. The legal bonding argument suggests that US-listed foreign firms are signaling to investors a commitment to comply with the rules of US regulatory system and, thus, foreign legal strength *per se* should not be a significant factor in foreign firms' filing lags. If, on the contrary, the empirical results show a significant association between international differences in foreign countries' legal strengths and 20-F reporting filing lags, this would imply that US legal bonding is not always effective among foreign firms.

Our sample consists of 338 US-listed foreign firms that filed 20-F reports with the SEC in fiscal years 2010 and 2011. Our results show that in addition to the reduction in the filing lags in 2011, we document significant changes in the filing lag distribution in 2011 compared to the prior six-month filing deadline in 2010. Specifically, the results show that the majority (63 per cent) of 20-F filings are made in the last month of the new deadline versus a minority of reports (34 per cent) in the corresponding month under the old guidelines. Also, 6 per cent of the firms filed late in 2011 relative to 0 per cent in 2010. These results indicate that foreign-listed firms have complied with the shortened deadline to provide their US shareholders with more timely information hoping, perhaps, to gain market preference by investors.

We also find that 20-F filing lags are negatively related to both the use of IFRS or US-GAAP in 20-F reports and the English language in the foreign firms' home countries. Finally, we find a significant negative relationship between 20-F filing lags and a foreign country's legal strength for both years 2010 and 2011. This finding is consistent with the ineffective bonding results in prior studies. Indeed, the new accelerated filing deadline has not strengthened the US legal bonding mechanism.

The rest of this paper is organized as follows. Section 2 provides a summary of related prior studies. Section 3 presents the research design. Empirical findings are reported in Section 4 and concluding remarks are provided in Section 5.

2. Related literature and hypotheses

Prior studies examining US firms' filings of annual reports with the SEC find that filing lags are associated with several company characteristics and audit opinions. For instance, Alford *et al.* (1994) examine the filing dates of 10-K reports and find that firms with late filings are smaller in size, exhibit lower financial performance and have higher financial risk. Impink *et al.* (2012) examine if Section 404 of Sarbanes – Oxley is associated with 10-K filing delays. They document that while Section 404 requirement by itself is not related to 10-K filing delays, firms reporting significant material internal control weaknesses are more likely to have filing delays. Additionally, these authors find that 10-K filing delays are associated with firm characteristics such as firm size, profitability, financial risk, operating complexity, mergers and restructures, as in prior studies. In a study focusing on audit delays, Ettredge *et al.* (2006) concludes that the presence of material internal control weaknesses is associated with significant increases in audit report lags.

Other studies have examined the reporting practices of US-listed foreign firms. Alford *et al.* (1993) document a wide range of reporting deadlines for annual reports among countries, with the USA having one of the shortest filing deadlines. Frost and Kinney (1996) examine the reporting practices of US-listed foreign firms. They find that the median 20-F filing lags for firms reporting US-GAAP information in item 17 (reconciliation-on going foreign firms) and item 18 (full US-GAAP reconciliation for new registrants) are 173.5 and 160.6 days, respectively. Indeed, the late filing of 20-F reports, which can rob information of its usefulness, is one of the reasons precipitating the SEC to shorten the 20-F filing deadline.

Apart from the factors alluded to earlier, 20-F filing lags could be affected by several unique factors that are peculiar to foreign firms. First, the SEC announced in 2007 that US-listed foreign firms do not have to provide US-GAAP reconciliations in their 20-F reports if they use IFRS, starting from fiscal years ending on or after November 15, 2007 (SEC, 2007). As indicated earlier, the elimination of US-GAAP reconciliations for firms using IFRS is one of the reasons cited by the SEC for the accelerated 20-F filing deadline. However, foreign firms that have not adopted IFRS still have to reconcile foreign-GAAP information to information based on US-GAAP. As such, firms not using IFRS or US-GAAP in their 20-F reports may have longer filing lags. Second, the need to translate financial reports from other languages to English is cited by many foreign firms as a potential factor affecting their filing lags.

The third unique factor related to 20-F filing lags is the legal strength of foreign countries. It is generally believed that the USA has a strong legal environment for investor protections, and legal bonding is considered a key reason for US listings by foreign firms (Stulz, 1999; Coffee, 2002). As such, the US listings can provide strong protections to investors which, in turn, can lower the cost of capital for US-listed foreign firms (Stulz, 1999; Coffee, 2002). However, the legal bonding mechanism is not always found to be effective. For example, Siegel (2005) reviews US court cases related to US-listed Mexican firms and finds little evidence of strong US legal enforcement on Mexican firms. Berkman and Nguyen (2010) compare the changes in stock liquidity of foreign firms in their domestic markets before and after their US stock listings. These authors suggest that US legal bonding should reduce information asymmetry among investors, resulting in better liquidity of the company's shares in the foreign firm's home countries. However, they do not find any significant increase in domestic stock liquidity after the US-listing of foreign firms as compared to a matched sample of control firms. Thus, their findings cast doubts on the effectiveness of legal bonding of foreign firms in the USA markets.

Lang *et al.* (2006) examine the earnings management practices of US-listed foreign firms. They find evidence of significant earnings management on their reconciled earnings to US-GAAP. They also find that the extent of the earnings management is negatively related to the strength of the legal environment of the firms' home countries. The findings suggest that US-listings by themselves do not necessarily imply foreign firms have the same level of reporting quality as domestic US firms. Instead, the findings reveal that the foreign firms' home countries' legal environment still significantly impacts their reporting practices in the USA. If legal bonding is ineffective and foreign firms' reporting practices are affected by the legal environments of their home countries, 20-F filing lags can be negatively associated with the foreign firms' home countries' legal environment. In other words, firms from countries with greater legal strength should experience shorter 20-F filing lags and manifest better reporting practices.

2.1 Hypotheses

Based on the above analysis, we develop the following testable hypotheses (stated in the alternative form) in relation to US-listed foreign firms' 20-F filing lags:

H1. Domestic Language is English

US-listed foreign firms from countries preparing financial statements in a domestic language that is different from English would require more time for their 20-F filings. This implies a negative relationship between filing lags and foreign firms from English-speaking countries:

H2. Use of IFRS or US-GAAP

US-listed foreign firms that use IFRS or US-GAAP in their home countries' annual report filings are expected to experience less time in their 20-F filings compared to those using their domestic GAAP. This implies a negative relationship between foreign firms' filing lags and the use of IFRS or US-GAAP in their domestic financial statements:

H3. Legal bonding

US-listed foreign firms from countries with strong legal systems are more likely to file early. This implies a negative association between 20-F filing lags and the firm's home country's legal strength.

2.2 Other controlling variables

Consistent with prior studies, we control for other firm characteristics that have shown to affect the filing lags of US firms such as firm performance, size, mergers and restructures, audit firm, compliance with SOX-404, internal control weaknesses, going concern audit opinion and operating complexity. The next section presents the research design and our empirical models of 20-F filing lags, given the factors discussed above.

3. Research design

3.1 Sample and data sources

An initial sample of foreign firms that filed Form 20-F reports in 2011 for fiscal year ended in 2010 is extracted from Audit Analytics. To be included in the final sample, the firm must:

- have a December 31 year-end;
- be listed on New York Stock Exchange, American Stock Exchange or NASDAQ;
- not have a parent corporation;
- not be delisted in 2011 and 2012; and
- have sufficient financial data as defined below.

This process produced 338 firms with 20-F filings during the period of 2010 and 2011. The sample was further classified by country and its legal strength. Table I summarizes the firms' countries of domicile and their legal strength.

For each of the sample firms, their Form 20-F reports filed in 2011 and 2012 are collected from the SEC's EDGAR system[4]. Financial data are collected from Yahoo, Mergent Online, Audit Analytics and Form 20-F.

3.2 Model

Our empirical tests are focused on two goals:

(1) first, examining the effects of the shortened deadline on foreign firms' filing practices; and

Country	No. of firms	Legal
Argentina	10	10.0
Australia	1	22.0
Belgium	2	0.0
Brazil	23	6.0
Chile	8	22.5
China	94	4.0
Columbia	2	6.0
Denmark	2	12.0
Finland	1	18.0
France	8	15.0
Germany	5	5.0
Greece	21	9.0
Hong Kong	9	25.0
India	1	20.0
Indonesia	1	6.0
Ireland	8	24.0
Israel	49	15.0
Italy	4	4.0
Japan	1	20.0
Mexico	15	2.0
Netherlands	13	12.0
Peru	1	10.5
Philippines	1	7.5
Portugal	1	15.0
Russia	2	20.0
Singapore	1	20.0
South Africa	2	12.5
South Korea	9	10.0
Spain	3	20.0
Sweden	2	18.0
Switzerland	6	10.0
Taiwan	13	15.0
Turkey	1	7.0
United Kingdom	18	27.5
Total	338	

Note: Legal = Anti-director right rating × Law & order rating

Table I. Sample firms by countries

(2) second, examining the incremental effects of the three unique characteristics of US foreign listed firms.

Based on the previous SEC filing rules, Form 20-F reports for fiscal year 2010 should be filed by June 30, 2011, six months after the fiscal year-end. However, the new SEC rules require Form 20-F reports for fiscal year 2011 to be filed by April 30, 2012, four months after the fiscal year-end:

$$LAG_{it} = \beta_0 + \beta_1 YEAR2011_{it} + \varepsilon_{it} \tag{1}$$

$$LAG_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_2 SIZE_{it} + \beta_3 RESTRUCT_{it} + \beta_4 BIG4_{it} + \beta_5 SOX404_{it} + \beta_6 MW_{it} + \beta_7 GC_{it} + \beta_8 SEGMENT_{it} + \beta_9 YEAR2011_{it} + \varepsilon_{it} \quad (2)$$

Where:

LAG_{it} = number of calendar days from December 31 to the Form 20-F filing date;

ROA_{it} = net income divided by total assets at the end of last year in year t;

$SIZE_{it}$ = natural logarithm of total assets at the end of the year in year t;

$RESTRUCT_{it}$ = 1 if the beginning and ending total assets of firm i differ by 20 per cent or more in year t; 0 otherwise;

$BIG4_{it}$ = 1 if firm i has Big4 auditor in year t; 0 otherwise;

$SOX404_{it}$ = 1 if firm i has Section 404 auditor review in year t; 0 otherwise;

MW_{it} = 1 if firm i has ineffective internal/disclosure controls in year t; 0 otherwise;

GC_{it} = 1 if firm i received a going concern opinion in year t; 0 otherwise;

$SEGMENT_{it}$ = number of operating segments in year t; and

$YEAR2011_{it}$ = 1 if fiscal year ended on December 31, 2011 for firm i; 0 otherwise.

Model equation (1) examines the changes in filing lag due to the accelerated deadline effective for fiscal year 2011, and Model equation (2) examines the changes in filing lags after controlling for fundamental firm characteristics. LAG is the number of calendar days between December 31 and the Form 20-F filing date. All sample firms have December 31 year-end to synchronize the analysis among the sample firms and to examine the initial compliance of the new filing deadline. YEAR2011 is an indicator variable showing the average change in filing lags for fiscal year ended on December 31, 2011 compared to fiscal year ended on December 31, 2010. As foreign firms are required to file the Form 20-F reports with a shorter filing deadline for fiscal year 2011, YEAR2011 should have a negative coefficient estimate. ROA is defined as net income deflated by the end of the year total assets and is expected to be negatively related to filing lag. SIZE is natural logarithm of total assets at the end of the year and should be negatively related to filing lags. Firms with significant mergers or restructures should have longer filing lags, given the structural changes in the firms. We define a firm as undergoing significant merger or restructuring activities if total assets changed by 20 per cent from the beginning to the end of a year. This approach is similar in spirit to that of Ashbaugh *et al.* (2003) who define firms having significant financing activities indirectly through significant changes in liabilities and number of shares outstanding. BIG4 and SOX404 are indicator variables for firms with Big 4 auditors and Section 404 auditor reviews. Thus, BIG4 is expected to be negatively associated with filing lag, while SOX404 should exhibit a positive association with filing lag. As firms with ineffective disclosure/internal controls and going concern opinions are expected to have longer filing lags, MW and GC should be positively related to filing lags. SEGMENT is a firm's number of operating segments and is expected to be positively related to filing lags.

Model equation (3) below examines if the Form 20-F filing lags are associated with the foreign firm's home country's use of the English language, as well as its accounting standards and the strength of the home country's legal environment:

$$\begin{aligned} LAG_{it} = {} & \beta_0 + \beta_1 ROA_{it} + \beta_2 SIZE_{it} + \beta_3 RESTRUCT_{it} + \beta_4 Big4_{it} \\ & + \beta_5 SOX404_{it} + \beta_6 MW_{it} + \beta_7 GC_{it} + \beta_8 SEGMENT_{it} + \beta_9 YEAR2011_{it} \\ & + \beta_{10} LANG_{it} + \beta_{11} STANDARD_{it} + \beta_{12} LEGAL_{it} + \varepsilon_{it} \end{aligned} \tag{3}$$

Where:

$LANG_{it}$ = 1 if firm i is from Australia, Ireland or UK; 0 otherwise;
$STANDARD_{it}$ = 1 if firm i uses IFRS or US-GAAP in 20-F in year t; 0 otherwise; and
$LEGAL_{it}$ = anti-director right rating × law & order rating for the home country of firm i in year t.

LANG measures the effects of not having the need to translate financial reports from other languages to English. STANDARD represents the effects of US-GAAP reconciliation exemption for firms using IFRS or US-GAAP in their 20-F reports. Therefore, both LANG and STANDARD are expected to be negatively associated with filings lags, as less effort is needed for firms using English and IFRS/US-GAAP in their financial reports.

Durnev and Kim (2005) suggest that the strength of a country's legal environment is based on both *de jure* and *de facto* aspects of regulation. The *de jure* aspect of investor protection is based on the anti-director right index defined in La Porta *et al.* (1998). The strength of *de facto* regulation is based on the rule-of-law index from the International Country Risk Guide[5]. Durnev and Kim define the legal strength of a country, LEGAL, as the product between the anti-director index and the rule-of-law index. In other words, the strength of the legal environment is a function of the strength of the written rules and the strength of rule enforcement. Doidge *et al.* (2007) document that firm characteristics explain only a very small fraction of the variation in corporate governance and disclosure practices among foreign firms, whereas the country-level LEGAL measure explains much more of the variation. We obtain the anti-director index from La Porta *et al.* (1998) and from Durnev and Kim (2005) for countries that are not listed in La Porta *et al.* (1998). The Law and order index of January 2011 is collected from the *International Country Risk Guide*. Large values of the anti-director index and law and order index are indicative of strong legal environment in a country. The filing lag should be negatively related to LEGAL, as prior studies find better disclosure practices and quality of earnings among US-listed foreign firms from countries with stronger legal strength.

4. Empirical findings

4.1 Descriptive statistics

Table I depicts our sample of 338 firms by countries and their respective legal ratings. There are 34 countries in the sample with most of the firms from China. This is not surprising, given the substantial increase of Chinese firm listings on major US exchanges in recent years. Argentina, Brazil, Greece, Israel, Mexico, Netherlands, Taiwan and UK, each has more than ten firms in the sample. There is a large range of legal ratings among the sample firms. For example, UK, Hong Kong and Ireland have the three highest legal ratings in the sample countries, while Belgium, Mexico and China have the lowest legal ratings.

Table II summarizes 2010 and 2011 filing lags. From Panel A, and for fiscal year ending 2010, only 51 per cent of the firms filed their Form 20-F reports by the end of April and one-third (34 per cent) filed in June, the last month of the deadline. This is consistent with prior studies whereby many foreign firms filed their Form 20-F reports very close to the filing deadline. There is a remarkable difference in the filing lags for fiscal year 2011 relative to that of 2010. While the number of firms filing in February and March is about the same for both years, the number of firms filing their Form 20-F reports in April has increased substantially for fiscal year 2011 (23 per cent for 2010 vs 63 per cent for 2011). This finding provides preliminary evidence that the new SEC filing rules have forced some foreign firms to file their Form 20-F reports in a more timely fashion. On the other hand, about 6 per cent of the firms still filed their Form 20-F reports late in May, which surpasses the end of the April deadline. This finding lends support to one of the concerns raised by firms in their comment letters to the SEC that the proposed

	Panel A: filing lag by months		
By the end of the month	No. of firms	Frequency (%)	Cumulative frequency (%)
Fiscal year of 2010			
February	12	4	4
March	84	24	28
April	77	23	51
May	49	15	66
June	116	34	100
Total	338		
Fiscal year of 2011			
February	16	5	5
March	88	26	31
April	213	63	94
May	21	6	100
Total	338		

	Panel B: filing lag by firm types	
By the end of the month	No. of large and accelerated filers	No. of non-accelerated filers
Fiscal year of 2010		
February	12	0
March	66	18
April	54	23
May	37	12
June	87	29
Fiscal year of 2011		
February	16	0
March	81	7
April	175	38
May	17	4

Table II. Summary statistics of filing dates of the sample shortened deadline would lead to late filings. In fact, Petrobras Argentina S.A. stated in its Form NT 20-F that its failure to file on time was due to the accelerated deadline, which is a primary reason for other late filers. Below is an excerpt from its Form NT 20-F:

> Given the new deadline of April 30 for the filing of the annual report on Form 20-F first applicable to the Registrant this year, and due to unanticipated delays, the Registrant is unable to timely file its Form 20-F for the year ended December 31, 2011. The Registrant intends to file its annual report on Form 20-F before the filing deadline of May 15, 2012.

The SEC's initial proposal had required foreign firms classified as large accelerated or accelerated filers to file their Form 20-F reports within three months after the fiscal year-end. Other foreign firms classified as non-accelerated filers could have filed their Form 20-F reports within four months after the fiscal year-end under the original proposal. However, as a compromise between the SEC and foreign firms, the final rules allow all US-listed foreign firms to file their Form 20-F reports within four months after the fiscal year-end. Panel B of Table II summarizes the filing lags by firm classifications. For fiscal year 2011, about two-thirds of the large accelerated and accelerated foreign firms filed their Form 20-F reports after March, which was the filing deadline under the initial SEC proposal.

Table III presents the summary statistics of the variables used in the regression analysis. There are 676 firm-year observations. The top and bottom 1 per cent of all continuous variables are winsorized. The average filing lag is about 115 days. About 93 per cent of the observations have Big 4 auditors and 81 per cent of the observations have conducted Section 404 auditor reviews. Only 7 per cent of the sample reported ineffective

	Sample size = 676	
Variables	Mean	Median
LAG	114.6849	116.0
ROA	0.0273	0.0402
SIZE	21.6596	21.2890
RESTRUCT	0.3609	0.0
BIG4	0.9275	1.0
SOX404	0.8062	1.0
MW	0.0710	0.0
GC	0.0177	0.0
SEGMENT	2.7011	2.0
LANG	0.0798	0.0
STANDARD	0.9023	1.0
LEGAL	10.8431	9.5

Notes: LAG = number of calendar days from the December 31 to the Form 20-F filing date; ROA = net income divided by total assets at the end of last year; SIZE = natural logarithm of total assets at the end of the year; RESTRUCT = 1 if the beginning and ending total assets of a firm differ by 20% or more; 0 otherwise; and BIG4 = 1 if a firm has Big4 auditor; 0 otherwise; SOX404 = 1 if a firm is a large accelerated or accelerated filer; 0 otherwise; MW = 1 if a firm has ineffective disclosure or internal controls; 0 otherwise; GC = 1 if a firm received a going concern opinion; 0 otherwise; SEGMENT = number of operating segments; LANG = 1 if a firm is from Australia, Ireland and UK; 0 otherwise; STANDARD = 1 if a firm uses IFRS or US-GAAP in 20-F report; 0 otherwise; LEGAL = anti-director right rating × law & order rating for the home country of firm

Table III. Summary statistics of variables disclosures or internal control systems and less than 2 per cent of them have going concern opinions. Only about 7.9 per cent of firms are from countries where the local language is English. Reporting standards of firms are collected from Audit Analytics. The 20-F reports of firms identified as not using IFRS or US-GAAP are used to confirm the choice of reporting standards. Thirty firms are found to be not using IFRS or US-GAAP in both 2010 and 2011. Another six firms did not use IFRS or US-GAAP in one of the two years. Thus, over 90 per cent of the firm-year observations used IFRS or US-GAAP in the sampling period. The average legal rating is 10.84 in the sample.

We present in Table IV the Pearson correlations for our set of independent variables. Table IV reveals none of our pairwise correlation coefficients among our explanatory variables is greater than the general rule of thumb of 0.8, suggesting that multicollinearity is unlikely to be a serious issue in our multivariate models (Lee *et al.*, 2000).

4.2 The multivariate results

The multivariate tests investigate the impact of the new shortened filing deadline along with the other firm- and country-specific characteristics such as language, accounting standards and the country of origin legal index. The results of these tests are reported in Table V. The base model (Model 1) of Table V examines the changes in filing lags for fiscal year 2011 vs 2010. The coefficient estimate on YEAR2011 is negative (−21.16) and statistically significant. This indicates that there is a material reduction of about 21 days in the filing lags for 20-F reports for fiscal year 2011 compared to fiscal year 2010[6]. Notwithstanding the vehement complaints of firms, the new SEC filing deadline has clearly improved the timeliness of Form 20-F filings for fiscal year 2011.

In Model 2, we examine the impact of the accelerated deadline on foreign firms' filing lag along with several control factors that have been documented in the literature as affecting domestic US firms' filings with the SEC. The control variables, in general, are statistically significant and have the expected signs. ROA, SIZE and BIG4 have negative coefficients and are statistically different from zero. These findings suggest that larger firms, more profitable firms and firms with Big 4 auditors have shorter filing lags. On the other hand, RESTRUCT, SOX404, MW and SEGMENT have positive coefficients and are statistically significant. These results are consistent with the expectations that firms with restructurings, Section 404 auditor reviews, ineffective disclosures or internal controls opinions, and more operating complexity have longer filing lags. The coefficient of YEAR2011 is still negative and statistically significant, confirming the results in Model 1.

In Model 3, we examine the effect of the firm's home country language (LANG) and the accounting standards (STANDARD) used by foreign firms in preparing their financial statements in their country of domicile, as well as the firm's home country legal index (LEGAL) along with all variables included in Model 2. The coefficient estimates of all three variables are negative and statistically significant. This suggests that foreign firms from English-speaking countries have shorter filing lags than foreign firms from countries where the domestic language is not English; thus, supporting the language *H1*. Consistent with *H2*, the results indicate that foreign firms preparing their home financial statements using IFRS or US-GAAP have shorter filing lags. This supports the SEC's position to encourage foreign firms and regulators to adopt IFRS during the three-year transition period allowed for the new deadline to take effect. The coefficient

Table IV. Pearson correlation matrix among independent variables

Sample size = 676
(p-value reported below the correlation coefficients)

	ROA	SIZE	RESTRUCT	BIG4	SOX404	MW	GC	SEGMENT	YEAR2011	LANG	STANDARD	LEGAL
ROA	1	0.20987	−0.06733	−0.05075	0.20591	−0.09011	−0.33772	0.05667	−0.07122	0.02002	0.06092	−0.04091
		< 0.0001	0.0802	0.1875	< 0.0001	0.0191	< 0.0001	0.141	0.0642	0.6033	0.1135	0.2882
SIZE		1	−0.27516	0.21854	0.49521	−0.12407	−0.08414	0.59047	0.01648	0.1591	0.25989	−0.08067
			< 0.0001	< 0.0001	< 0.0001	0.0012	0.0287	< 0.0001	0.6689	< 0.0001	< 0.0001	0.036
RESTRUCT			1	−0.11064	−0.18481	0.10403	0.06225	−0.24035	−0.11088	−0.16766	−0.14191	0.12268
				0.004	< 0.0001	0.0068	0.1059	< 0.0001	0.0039	< 0.0001	0.0002	0.0014
BIG4				1	0.20935	−0.07821	−0.00562	0.1444	0.00571	−0.01214	−0.00181	0.04259
					< 0.0001	0.0421	0.8839	0.0002	0.8823	0.7527	0.9626	0.2688
SOX404					1	−0.11218	−0.16083	0.21715	0.1235	0.0307	0.10304	−0.16127
						0.0035	< 0.0001	< 0.0001	0.0013	0.4255	0.0073	< 0.0001
MW						1	0.05007	−0.07433	−0.01152	−0.07343	−0.03897	0.01332
							0.1935	0.0534	0.765	0.0564	0.3117	0.7296
GC							1	−0.07279	0.06722	−0.0321	−0.03961	0.00648
								0.0585	0.0807	0.4047	0.3038	0.8665
SEGMENT								1	0.00465	0.1181	0.24028	−0.20013
									0.904	0.0021	< 0.0001	< 0.0001
YEAR2011									1	0	0	0.0299
										1	1	0.4376
LANG										1	0.61624	0.1617
											< 0.0001	< 0.0001
STANDARD											1	0.09692
												0.0117
LEGAL												1

Dependent variable = LAG			
Model	(1)	(2)	(3)
Intercept	125.2662***	185.6724***	194.7993***
ROA		−23.8129***	−25.1843***
SIZE		−3.1436***	−2.1978***
RESTRUCT		3.5302*	2.9296
BIG4		−11.0196**	−10.8662**
SOX404		4.9406*	0.9166
MW		15.1154***	14.0811***
GC		9.8096	6.5190
SEGMENT		4.5456***	4.0842***
YEAR 2011	−21.1627***	−21.6166***	−20.9788***
LANG			−17.9976***
STANDARD			−20.3574***
LEGAL		−0.4971***	
Adj. R^2	0.0909	0.1743	0.2583
F-statistics	68.52***	16.83***	20.58***
Sample size	676	676	676

Model	(4)	(5)	(6)
Intercept	221.2271***	147.6966***	221.2271***
ROA	−37.7031***	−13.9711**	−37.7031***
SIZE	−3.2411***	−1.3126***	−3.2411***
RESTRUCT	5.3846	1.0305	5.3846*
BIG4	−12.5557*	−8.6866**	−12.5557**
SOX404	3.1855	−1.0350	3.1855
MW	16.5037**	12.6330***	16.5037***
GC	26.3854	5.6274	26.3854*
SEGMENT	5.9466***	2.4064***	5.9466***
LANG	−21.9311**	−13.9320***	−21.9311***
STANDARD	−30.3896***	−8.9701**	−30.3896***
LEGAL	−0.5586*	−0.4131**	−0.5586**
YEAR2011			−73.5310***
ROA × YEAR2011			23.7320*
SIZE × YEAR2011			1.9288*
RESTRUCT × YEAR2011			−4.3541
BIG4 × YEAR2011			3.8691
SOX404 × YEAR2011			−4.2205
MW × YEAR2011			−3.8707
GC × YEAR2011			−20.7579
SEGMENT × YEAR2011			−3.5401**
LANG × YEAR2011			7.9991
STANDARD × YEAR2011			21.4195***
LEGAL × YEAR2011			0.1455
Adj. R^2	0.2005	0.1943	0.2721
F-statistics	8.68***	8.39***	11.97***
Sample size	338	338	676

Notes: YEAR2011 = 1 if fiscal year-end is December 31, 2011; 0 otherwise; ***, **, *, are significant at 1, 5 and 10%, respectively; two-tailed test for intercept and F-statistics and one-tailed test for all other variables

Table V.
Coefficient estimates of regressing firm filing lags on determinants by year

and strength of LEGAL suggests that firms from foreign countries with stronger legal environments have shorter filing lags. This finding is consistent with the findings in Lang *et al.* (2006) that the extent of earnings management on their earnings reconciled to US-GAAP is less among foreign firms from foreign countries with stronger legal environments. This finding is also consistent with the notion that legal bonding from US-listings is ineffective, as suggested by Siegel (2005) and Berkman and Nguyen (2010). For the legal bonding hypothesis to be valid, there should not be a significant relationship between the US-listed foreign firms' filing lags and their home countries' legal indexes. Our data show that while some foreign firms filed their Form 20-F reports early, others filed their Form 20-F reports near the filing deadline, resulting in significant variation of filing timeliness.

Variance inflation factor of over ten is indicative of collinearity problems (Neter *et al.*, 1990). The variance inflation factors in Models 2 and 3 are all well below 10 with the largest value of 2.13, which suggest that collinearity does not have significant effect on the results of this study. As some countries only have a few observations in the overall sample, we exclude all countries with less than at least ten firms and re-estimate Model 3 as a sensitivity test. Our untabulated results are qualitatively similar to that reported in Table V, except LANG becomes insignificant with a *p*-value of about 0.24.

Results in Table V are based on two years of pooled data. Models 4 and 5 in Table V report the regression results for each individual year. In general, the results from the individual year regression are similar to that of the pooled two-year results. The coefficient estimates for LEGAL are negative and significantly different from zero for both 2010 and 2011. This suggests that the ineffective bonding applicable to Form 20-F filing lag in 2010 persists in 2011. To compare the effect of legal strength on filing lags in 2010 and 2011, we estimate Model 5 using interaction terms between the control variables and the indicator variable (YEAR2011) similar to the approach in Ettredge *et al.* (2006). The interaction terms show the differential effects of the main variables on the 2011filing lags. The interaction terms of ROA × YEAR2011, SIZE × 2011, SEGMENT × YEAR2011 and STANDARD × YEAR2011 all have opposite signs compared to the main variables and are statistically significant. These findings are consistent with the effects of accelerated filing deadline in reducing the influence of firm characteristics on the filing lags. The coefficient estimate for the interaction term of LEGAL × YEAR2011 is positive but statistically insignificant. This indicates that although there is a positive effect of the legal bonding under the accelerated filing deadline, the effect is not significant. Consequently, foreign countries' legal strength continues to have a significant effect on Form 20-F filing lags in the USA This finding is consistent with the filing lag patterns reported in Table II where the percentage of firms filing by the end of March is largely the same for 2011 as compared to 2010.

5. Conclusion

Motivated by the SEC's new accelerated deadline from six months to four months for Form 20-F filings, the dearth of research on the timeliness and determinants of 20-F filings in general, and the lack of any study (to the best of our knowledge) concerning this recent shortened 20-F filing deadline, we examine both the impact of this new regulation on foreign firms' filing practices and the factors associated with these practices. Noting the significant advances in modern technology and the import of timely information in well-functioning capital markets, the SEC contended that this shortened deadline would increase the timeliness of 20-F filings, thereby making it more relevant and, thus, more useful to investors. However, many of the SEC comment letters argued that considerable obstacles including, *inter alia*, domestic annual report filing customs, domestic GAAP and translation to a foreign language (English) would present a significant challenge to firms meeting this shortened deadline. This paper provides parties on both sides of the debate with empirical evidence as to the actual impact of this new accelerated deadline on firms' filing practices and their determinants. This new deadline took effect for firms with a 2011 fiscal year-end.

Using a sample of 20-F filings for 338 US-listed foreign firms for fiscal years ending 2010 and 2011, we find that there is a significant reduction in the filing lags and a change in their distribution for fiscal year 2011, as compared to the preceding year when the accelerated deadline was not applicable. Thus, the SEC has clearly achieved its goal of enhancing the timeliness of 20-F filings to investors. We inform the extant literature by providing new evidence that 20-F filing lags are negatively related to the use of IFRS or US-GAAP in 20-F reports, and the use of English language in foreign firms' home countries. This latter result seems to bolster the argument raised in many of the SEC comment letters that both a country's domestic GAAP and the translation from a foreign language to English can result in an increase in firms' filing lags (SEC, 2008b).

Further, as legal bonding is considered as a key reason for US listings by foreign firms (Stulz, 1999; Coffee, 2002), we also investigate the effectiveness of this bonding mechanism where foreign firms cross-list in the USA for the sole purpose of "renting" its prized legal environment and institutions, thereby signaling to stakeholders their commitment to increased quality. Our results reveal a significant negative relationship between 20-F filing lags and foreign countries' legal strength. This finding is consistent with the ineffective bonding results in prior studies (Siegel, 2005; Lang *et al.*, 2006; Berkman and Nguyen, 2010). Moreover, the coefficient capturing the effect of the legal strength in the presence of the new deadline (Legal*2011) is insignificant, thus suggesting that shortening the filing deadline has not strengthened the bonding effect.

Taken as a whole, our study should be of interest to the SEC, as it provides empirical evidence on firms' 20-F filing practices and their determinants under its new mandatory accelerated deadline. Our results may also be viewed as one piece of evidence the SEC might want to consider, as it deliberates on a possible three-month filing deadline to align the timing of foreign firms' 20-F reports with US domestic firms' 10-K filings (SEC, 2008b, p. 31). Given many firms complained that the shortened deadline would be onerous to them, we believe providing information on foreign firms' compliance or non-compliance would be important to the SEC, as it deliberates on further accelerating the deadline by an additional month. Also, our results on what factors are associated with these filing lags ought to be of interest to managers, auditors, preparers and regulators.

Our results should be construed with some important caveats in mind. First, we have not addressed the question of how the market reacted to the timelier filings of 20-F annual reports and, also, the additional costs incurred by companies to comply with the SEC accelerated deadline. An assessment of the SEC's policy to accelerate 20-F filings would have to take into account the trade-off between investors receiving better information and firms' incremental costs associated with the accelerated filing. Second, our inferences are based on a single year of data, as foreign firms only had to begin to comply with their 20-F filings on an accelerated basis for their first fiscal year ending on or after December 15, 2011. Lastly, there are several countries in our sample with very few observations; however, our results still hold when these countries are truncated from the sample. Future studies may want to examine the cost and benefit trade-off of the accelerated filing deadline to foreign firms and US investors, and if the Form 20-F filing practices have changed over time.

Notes

1. Large accelerated filers are generally defined as firms with public float of at least $700 million. Accelerated filers are defined as firms with public float of over $75 million but less than $700 million.
2. Comment letters to the SEC are available at www.sec.gov/comments/s7-05-08/s70508.shtml
3. It is not the intention of this study to assess the market reaction to 20-F filings under the SEC's new accelerated deadline or to estimate the additional costs to firms associated with this timelier filing. Our purpose is to provide empirical evidence on firms' filing practices in light of the SEC's accelerated deadline and to determine the factors associated with firms' filing lags.
4. Firms with a 2010 fiscal year end file their 20-Fs in 2011, and those with fiscal year end in 2011(the effective date of the accelerated deadline) report in 2012.
5. "Law and order are assessed separately, with each sub-component ranging from zero to three points. The Law sub-component is an assessment of the strength and impartiality of the legal system, while the order sub-component is an assessment of popular observance of the law". (The PRS Group).
6. From Table II, 15% of the firms filed their 20-F reports in May and 34% of the firms filed their 20-F reports in June 2011. If these firms were to file 30 or 60 days earlier in 2012, the average filing lag of the overall sample would be shortened by about 24.9 days ($30 \times 15\% + 60 \times 34\%$), which is similar to our findings.

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