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"BEYOND BALANCE SHEET MINIMUM REQUIREMENTS"

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Ai miei genitori
Alle mie sorelle
A Matteo

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Abstract

Corporate disclosure consists of mandatory periodic disclosure and voluntary disclosure. Both contribute to the reduction of information asymmetries arising between the company and the current and/or potential investors, and between the company and other users. The compulsory information is prescribed by current applicable regulations and accounting standards, and refers to periodic financial reports. Further, companies have at their disposal several channels to communicate additional information to the public on a voluntary basis (e.g. conference calls, road shows and press releases). Concerning mandatory disclosure, the balance sheet is one of the fundamental financial statements for all companies, including firms undertaking Initial Public Offerings (IPOs). IPO prospectuses are the first means for firms willing to quote on capital markets to disclose financial information to the public. Several determinants may influence the level of disclosure, measured in terms of disclosed balance sheet items, in IPO prospectuses. Moreover, the extent of disclosure may affect investors' ability to value the IPO. Based on a sample of 683 IPOs completed between 2003 and 2012, the results suggest that post-crisis firms and companies with a greater time distance between S-1 and 424 filings present a greater level of detailed information concerning their liabilities. In addition, firms operating in the 'Oil, Gas and Coal' industry present a greater disclosure level compared to the other industry types. Further analyses indicate that first-day returns are negatively affected by noncurrent assets and positively influenced by noncurrent liabilities.

1. Introduction

Listed companies communicate information to the public through reporting and disclosure. The financial reporting is becoming more complex due to the increasing number of regulatory requirements, which contributes to the growth in size of annual reports. On the other hand, the growing information needs of financial users have increased the disclosure channels. However, "improving disclosures is not only a matter of quantity but also of quality of information" (ESMA, 2015). Consistently, recent regulatory interventions, such as the Sarbanes-Oxley Act (SOX) of 2002 in US and the Transparency Directive Amending Directive (TDAD) of 2013 in EU, aim to ensure the reliability and the transparency of publicly reported financial information.

Corporate disclosure has a critical role in the capital market operations (Healy and Palepu, 2001). Indeed, disclosure reduces "the possibility of information asymmetries" arising between the firm and the current and/or potential investors, and other financial report users (Leuz and Verrecchia, 2000). Consistently, Bhattacharya et al. (2003a) find that greater levels of earnings opacity (i.e. lack of information) cause higher cost of equity and lower volume of trading in the stock market of that country. Conversely, an increase in the quality of mandated disclosures reduces the cost of capital, even if unevenly, in the economy (Lambert et al., 2007). Hence, one instrument to communicate with the public is represented by the mandatory disclosure that consists of periodic financial statements and other accounting reports. However, companies have at their disposal also the voluntary disclosure. Firms disclose additional information using different channels, e.g. conference calls, road shows and press releases.

Among the compulsory financial statements, the balance sheet is a critical statement to assess the company's financial health, also through the financial ratios. Indeed, the balance sheet, also known as "statement of financial position", presents a detailed list of company assets, liabilities and shareholders' equity at a certain point in time. Reading the balance sheet investors gain awareness of what the company owns and owes, and the amount invested by shareholders. Regulations and accounting standards define the balance sheet minimum content for an effective communication. Fairfield et al. (1996) and Hermann et al. (2000) find that a greater level of earnings disaggregation improve the accuracy of analysts forecasts. Similarly, Chen et al. (2015) construct a measure of disclosure quality and find that increasing the balance sheet disaggregation improves both analysts forecast dispersion and forecast accuracy.

Initial Public Offerings (IPOs) represent an interesting case for the analysis of the balance sheet content. Indeed, "effective communication with the investment community is critical to

getting the right valuation at the time of the IPO" (PwC, 2014). IPO prospectuses (e.g. Form S-1 and Form 424) are the first means to disclose financial information to the public. The SEC Form S-1 is the preliminary prospectus for a US company IPO, while the final IPO prospectus must be filed within two business days after pricing. These prospectuses contain disclosures about the company's business, results of operations, financial condition, management and other issues.

Given the critical role of IPO prospectuses, this study investigates whether the level of disclosure, defined as balance sheet disaggregation, is affected by some variables and is related to the capital market. The first set of hypotheses assesses whether there are determinants for additional disclosures in the balance sheet. First, it is examined whether the balance sheet disaggregation may exhibit year-to-year changes in the sample period. Second, it is assessed whether a greater time distance between S-1 and 424 filings may imply a higher number of additional disclosures in the final IPO prospectuses. Third, it is investigated whether higher levels of regulations lead to greater balance sheet information content. The second hypothesis explores whether the extent of balance sheet disclosure has an impact on first-day returns.

The analysis is based on Brown et al. (2017) sample of US IPOs completed between 2003 and 2012. Following some selection criteria, the final sample is of 683 IPOs. The balance sheet or consolidated balance sheet in each final IPO prospectus is classified following a template balance sheet structure. The scheme is grounded on Regulation S-X requirements for the balance sheet presentation. The line items required by the regulation are considered "generic" line items, because they represent the balance sheet minimum information content. The additional disclosures instead are treated as "specific" line items. The classified balance sheets are the basis for the calculation of measures that summarise the financial statement content. In addition, three types of measures are calculated to capture additional disclosures and to assess their pervasiveness in the balance sheet (i.e. *SPLI, SPLIFC* and *SPLITC*). *SPLI* measures the number of balance sheet categories with specific line items. The other two indicator variables are ratios of the number of balance sheet categories with specific line items over the filled categories (*SPLIFC*) and over total categories (*SPLITC*), respectively.

Several empirical analyses are performed to test the hypotheses. The descriptive analysis of the balance sheet disaggregation is performed in relation to three different variables: listing year, days between S-1 and 424 filings (*DAYS*), and industry classification. The listing year is used to analyse the temporal change, and to compare pre-crisis IPOs (2003-2007) to post-crisis IPOs (2008-2012). Using the days between S-1 and 424 filings, IPOs taking less 111 days (Median) to

list are compared to those having a greater time distance between S-1 and 424 filings. Additionally, Fama-French 10 industry classification scheme is used to assess whether the extent of balance sheet disclosure varies according to the industry type. Finally, the regression analyses aim to determine whether the levels of disclosure in the balance sheets of final IPOs prospectuses affects first-day returns. The regression models concentrate on assets and liabilities variables, generic and specific variables, and the indicator variables.

The descriptive evidence shows that the level of balance sheet disclosure undergoes increases or decreases in correspondence of years 2008 and 2009 suggesting that the financial crisis had an impact on the number of line items disclosed. When comparing pre-crisis IPOs to post-crisis IPOs, it emerges that even if the total number of balance sheet items is almost unchanged in the two subsamples, in the post-crisis period firms disclose more detailed information in their liabilities' sections. Concerning the days between S-1 and 424 filings, the findings suggest that firms taking more time to list present a greater level of detailed information concerning their current liabilities. Finally, in the analysis based on the industry classification, the 'Oil, Gas, and Coal Extraction and Products' industry stands out. Indeed, it mostly displays the greatest values in both balance sheet variables and indicator variables.

The results across the regression models involving the balance sheet variables indicate that only the asset side negatively affects the first-day returns with Noncurrent Assets. The greater the number of line items in this subsection, the lower are the first-day returns. Concerning the regression models involving the indicator variables, empirical evidence suggests that they do not have a strong predictive power. Only two indicator variables related to liabilities affect first-day returns in a positive way.

The structure of this paper is as follows. Section 2 presents the main regulatory developments and the main financial research findings regarding corporate disclosure divided into mandatory disclosure (2.1) and voluntary disclosure (2.2). Section 3 deals with the balance sheet analysis. First, it discusses the hypothesis development (3.1). Second, it describes the sample, the data collection for the analysis and the variables (3.2). Third, it provides the descriptive evidence of data collected (3.3). Finally, it offers the analysis of the sample using multivariate models (3.4). Section 4 provides the conclusions.

2. Corporate disclosure

"Corporate disclosure is critical for the functioning of an efficient capital market" (Healy and Palepu, 2001). The purpose of corporate disclosure in the capital markets is "to mitigate the 'information problem' and the 'agency problem'". The information or 'lemons' problem refers to information differences and conflicting incentives between entrepreneurs and savers. The agency problem refers to the conflict of interest between company's management and company's shareholders. Managers should maximize shareholders' wealth, but they have an incentive to maximize their own wealth.

Firms' financial reporting and disclosure are very wide and include the following:

– The external financial statements (balance sheet, income statement, statement of cash flows, and statement of stockholders' equity);

– The notes to the financial statements;

– Press releases and conference calls;

– Quarterly and annual reports;

– Financial information posted on a corporation's website;

– Financial reports to governmental agencies;

– Prospectuses pertaining to the issuance of common stock and other securities.

Corporate disclosure consists of mandatory disclosure and voluntary communication. Firms disclose the compulsory information in annual reports and other financial reports and provide voluntary information through different channels, such as analysts' presentations and conference calls, press releases, announcements on internet sites, management forecasts and other corporate reports.

The aim of mandatory disclosure is "to satisfy the users' informational needs, ensuring the production quality control through the laws and standards' observance" (Adina and Ion, 2008). The applicable regulations for listed companies are promulgated by US Congress and Securities & Exchange Commission (SEC) in US and by the Council of the European Union and the European Parliament in the European Union (EU).[1] In particular, in US the Securities Act of 1933 and the

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[1] US Congress is the legislative body. It consists of the Senate and the House of Representatives. Instead, SEC is an independent, federal government agency. Its mission is to protect investors, maintain fair, orderly, and efficient markets, and facilitate capital formation.
The European Council consists of the leader (prime minister or president) of each EU member plus the President of the European Commission plus the president of the Council. It provides broad guidelines for EU policy. The European Parliament shares legislative powers with the European Council and the European Commission.

Securities Exchange Act of 1934 represent the first-time imposition of disclosure requirements. In recent years, SEC promulgates two major reforms of securities regulation related to disclosure: Regulation Fair Disclosure (Reg FD) in 2000 and the Sarbanes-Oxley Act (SOX) of 2002. In the European Union, the Fourth (1978)[2] and Seventh (1983)[3] directives represent the first developments towards the harmonization of company law across Member States. Another important step is the 'IAS Regulation' of 2002, which establishes a single set of accounting standards for the preparation of listed companies' consolidated financial statements.

The accounting standards are also critical for mandatory disclosure. Indeed, they support firms in preparing and presenting their performance to the public. US has adopted ~~adopts~~ the US Generally Accepted Accounting Principles (US GAAP) since 1933. These standards are promulgated by Financial Accounting Standards Board (FASB), which is an independent board with the role of establishing and communicating standards of financial accounting and reporting since 1973. Outside US, 150 countries currently use International Financial Reporting Standards (IFRS). [4] On 19 July 2002, the European Union Parliament passed a regulation requiring all companies listed in the EU to adopt IFRS for fiscal years starting after 1 January 2005. The International Accounting Standards Board (IASB), an independent body, is in charge of developing and approving IFRS since April 2001.[5]

In addition to mandatory disclosure, companies voluntarily disclose information to the public. The term voluntary disclosure, as defined by FASB (2011), describes "disclosures, primarily outside the financial statements, that are not explicitly required by GAAP or an SEC rule".[6] The purpose of voluntary disclosure is to enrich information disclosed under regulatory requirements. Hence, voluntary disclosure represents an alternative communication tool at disposal of companies.

The contrast between mandatory disclosure and voluntary disclosure reflects the distinction between "hard" and "soft" information, which is gaining importance in recent financial research. Arnold et al. (2010) affirm that "hard information is most often numerical, while soft information

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[2] Fourth Council Directive 78/660/EEC of 25 July 1978 based on Article 54(3)(g) of the Treaty on the annual accounts of certain types of companies

[3] Seventh Council Directive 83/349/EEC of 13 June 1983 based on Article 54(3)(g) of the Treaty on consolidated accounts

[4] The use of IFRS standards by jurisdiction is displayed at: http://www.ifrs.org/use-around-the-world/use-of-ifrs-standards-by-jurisdiction/.

[5] The IASB was formed in 2001 to replace the International Accounting Standards Committee.

[6] However, as recognized by the Steering Committee, the purpose of most part of "voluntary disclosure" is to comply with the SEC's requirements concerning description of a business and management's discussion and analysis of financial condition and results of operations (MD&A).

is generally textual and often admits different interpretations from different observers making it ambiguous". Hard information instead is the information contained in the balance sheet, the income statement, the overall management section and the cash flow statement. This information represents company's fundamentals, e.g. revenues, earnings, assets, liabilities and growth. On the other side, soft information can offer context to financial numbers and share values, provide insight into managerial expectations, and identify important qualifiers or caveats that are absent from purely numerical data (Ferris et al., 2013). Textual information can be considered a completion of quantitative analysis, i.e. hard information. One way to investigate soft information is through textual analysis, whose aim is to describe the content and the features of texts.

To improve the quality and readability of soft information in financial reporting and disclosure, regulators have intervened. In US, the SEC issued Plain English Mandate in 1998. It requires following plain English principles in writing the front page of filings and that the prospectuses must be clear, concise, and understandable. In EU IASB launched the Disclosure Initiative in 2013, whose objective is to improve the effectiveness of disclosures in financial statements. Currently, this initiative includes six projects and is still on going.

Non-GAAP measures (hereinafter, NGMs) are a kind of middle ground between hard and soft information, a sort of semi-hard/semi-soft information. NGMs represent one of the main corporate managers' voluntary disclosures. However, they are "numerical measures of a registrant's historical or future financial performance, financial position, or cash flows that exclude (include) amounts that are included (excluded) from the most directly comparable measure calculated and presented in accordance with GAAP" (SEC, 2003). Firms began reporting NGMs in the late 1990s to supplement the GAAP financial information. In response to their alleged misuse, SEC released Regulation G (hereinafter referred to as "Reg G") in January 2003. Similarly, IASB regulates NGMs disclosure through 'Disclosure Initiative – Amendments to IAS 1'.

This section briefly presents the regulations governing corporate mandatory and voluntary disclosure and reviews the related financial research. Section 2.1 is dedicated to mandatory disclosure. It presents a brief summary of the evolution of reporting and disclosure regulations, describes the accounting standards, and examines the impact of mandatory disclosure on the market. Section 2.2 focuses on voluntary disclosure. It describes what soft information and non-GAAP measures are, and presents the results of financial research concerning textual analysis and the disclosure of NGMs.

2.1 Mandatory Disclosure

Mandatory disclosure requirements for listed companies consist of current applicable regulations and accounting standards. The applicable regulations are presented through their main developments in US and EU regulatory environment. The accounting standards complete the mandatory disclosure requirements. The focus is on IFRS and US GAAP, which are the most important accounting standards around the world. The objective of mandatory disclosure is to increase the information content and to ensure a certain level of quality for the data communicated by listed companies. Financial researchers investigate the effects of mandatory disclosure on the capital markets providing insights on their benefits.

This section proceeds as follows. Section 2.1.1 contains the main developments of the applicable regulations in both the United States and the European Union. Section 2.1.2 presents IFRS and US GAAP, the convergence project and their main differences. Section 2.1.3 focuses on the association between mandatory disclosure and the market.

2.1.1 Corporate disclosure regulations in the United States and in the European Union
The US corporate disclosure regulations

SEC sets the disclosure rules for US listed companies. Table 1, panel A summarizes the main developments regarding disclosure and financial reporting rules in the United States. The first regulations providing disclosure requirements are the Securities Act of 1933 and the Securities Exchange Act of 1934. In recent years, SEC promulgates two major reforms related to disclosure: Regulation Fair Disclosure (Reg FD) in 2000 and the Sarbanes-Oxley Act (SOX) of 2002. Other important developments concerning US corporate disclosure are Regulation S-X, Regulation S-K and Regulation G.

US Congress enacted the Securities Act of 1933 and the Securities Exchange Act of 1934 to restore public and investor confidence in the fairness of the securities markets after the Stock Market Crash of 1929; and created the Securities and Exchange Commission (SEC) with authority to prescribe "the methods to be followed in the preparation of [financial] reports" (Zeff, 2005). Often referred to as the "truth in securities" law, the Securities Act of 1933 has two basic objectives:

- "[Requiring] that investors receive financial and other significant information concerning securities being offered for public sale; and
- [Prohibiting] deceit, misrepresentations, and other fraud in the sale of securities".

Companies issuing securities must register with SEC. This ensures that they provide SEC and potential investors with all relevant information through prospectus and registration statement.

With the Securities Exchange Act of 1934, US Congress created the Securities and Exchange Commission. It is the first financial regulator in history. SEC covers all aspects of the securities industry, including the power to register, regulate, and oversee brokerage firms, transfer agents, and clearing agencies as well as the nation's securities self-regulatory organizations (SROs).[7] Furthermore, the SEC has the power to require periodic reporting of information by companies with publicly traded securities. There are mandatory filings for periodic reports (10-K, 10-Q), significant events (8-K), and in case of first release of securities (Form S-1, Form 424 and the related variants). These reports are available to the public through the SEC's EDGAR database.[8]

The first US accounting regulations introduced Regulation S-X (Reg S-X)[9], which set the rules regarding the detailed form and content requirements applicable to financial statements included in registration statements, periodic reports and other filings compulsory under the Securities Act (1933) and the Exchange Act (1934). Rules 3-01 to 3-20 specify the disclosure documents to be prepared in accordance with Regulation S-X, i.e. balance sheet, income statement, comprehensive income, changes in shareholder's equity and cash flow statement. In October 2016, the SEC adopted some amendments to Regulation S-X as part of its Investment Company Reporting Modernization efforts. For example, it amends certain rules regarding the general form and content of financial statements. These amendments involve "Total investments", income from payment-in-kind interest or non-cash dividends, Statement of Operations, written option activity disclosure.[10]

Regulation S-X contains a reference to the accounting standards. "Rule 4-01 requires that financial statement must be prepared according to US GAAP or 'translated' to US GAAP, with few exceptions". However, since the end of 1990s, companies disclose also non-GAAP measures

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[7] The New York Stock Exchange, the NASDAQ Stock Market, and the Chicago Board of Options are SROs.
[8] EDGAR is the SEC tool through which all companies, foreign and domestic, are required to file registration statements, periodic reports, and other forms electronically.
[9] 17 C.F.R. Part 210 – "Form and Content of and Requirements for Financial Statements, Securities Act of 1933, Securities Exchange Act of 1934, Public Utility Holding Company Act of 1935, Investment Company Act of 1940, Investment Advisers Act of 1940, and Energy Policy and Conservation Act of 1975".
[10] The amendments affect the mentioned items as follows:
   – "Total investments" can be presented in either assets or liabilities.
   – Companies must separately disclose income from payment-in-kind interest or non-cash dividends only if it is greater than 5% of the fund's investment income.
   – The amendments require the Statement of Operations presentation of net realized and unrealized gain or loss during the period to conform with those changes to the presentation in the schedule of investments.
   – The current written option activity disclosure has been eliminated.

with the aim of providing better insights into their business. Regulation G (2003) [11] and Item 10e of Regulation S-K rule the disclosure of NGMs. Reg G contains a general disclosure requirement and a specific requirement of a reconciliation of the non-GAAP financial measure to the most directly comparable GAAP financial measure. In addition, the SEC provides the Division's interpretations of the rules and regulations on the use of non-GAAP financial measures in Compliance & Disclosure Interpretations section ("C&DIs"). "The [2016] updated guidance provides clarifying examples in areas of frequent staff comment, including misleading non-GAAP presentations and non-GAAP measures with greater prominence than the comparable GAAP measures" (PwC, 2016b).

Regulation S-X is also related to Regulation S-K (Reg S-K)[12], which was introduced by the Securities Act of 1933. Reg S-K sets out reporting requirements for various SEC filings and registrations used by public companies. Financial data to be included are net sales or operating revenues, income (loss) from continuing operations, income (loss) from continuing operations per common share, total assets, long-term obligations and redeemable preferred stock, and cash dividends declared per common share. In addition, firms must include additional items that would help with the understanding of the financial condition and results of operations.

Before Regulation Fair Disclosure (2000), many companies released important information in meetings and conference calls without sharing them also with other shareholders and the public. In order to prevent selective disclosures the SEC proposed a regulation to address this issue in December 1999. This proposal encountered the opposition of large institutional investor and the favour of thousands of individual investors. Reg FD was enacted on 23 October 2000. It aims to promote the full and fair disclosure. Indeed, it provides that: "Whenever an issuer, or any person acting on its behalf, discloses any material non-public information regarding that issuer or its securities to [certain enumerated persons], the issuer shall make public disclosure of that information [...] simultaneously, in the case of an intentional disclosure; and [...] promptly, in the case of a non-intentional disclosure."

The second major reform in recent years is the Sarbanes-Oxley Act (SOX) of 2002. US Congress enacted SOX on July 30, in light of the Enron, WorldCom, Global Crossing, Adelphia and Tyco corporate scandals. Besides the financial scandals, other situations required changes to

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[11] Section 401(b) of the Sarbanes-Oxley Act directed the Commission to adopt rules requiring that any public disclosure or release of non-GAAP financial measures by a company filing reports under Section 13(a)14 or 15(d)15 of the Exchange Act.
[12] Part 229—"Standard instructions for filing forms under securities act of 1933, securities exchange act of 1934 and energy policy and conservation act of 1975—Regulation S-K"

the regulation of financial practice and corporate governance. For example, auditing firms provided both audit and non-audit services to the same companies; the bank lend money to large firms ignoring the risks of the company. SOX contains eleven titles. Title IV *Enhanced Financial Disclosures* includes three of the most important sections of SOX: Section 401, 404 and 409. Section 401 prescribes that financial statements published by issuers are required to be accurate and presented in a manner that does not contain incorrect statements or admit to state material information. Section 404 requires issuers to publish information in their annual reports concerning the scope and adequacy of the internal control structure and procedures for financial reporting. This statement shall also assess the effectiveness of such internal controls and procedures. Section 409 provides that issuers are required to disclose to the public, on an urgent basis, information on material changes in their financial condition or operations.

The corporate disclosure regulations in the European Union

In the European Union, companies' law directives and regulations establish the accounting rules.[13] The aim is the harmonization of company law across Member States. Table 1, panel B summarizes the main developments regarding disclosure and financial reporting rules in the European Union. The first two major directives having an impact on accounting are the Fourth (1978) and Seventh (1983). Indeed, they are known as "Accounting Directives". The Fourth Council Directive 78/660/EEC of 25 July 1978 aims to respond to the need to coordinate national regulations relating to the structure, content and publication of annual accounts of public limited liability companies, incorporated partnerships and limited liability companies. The annual accounts consists of a balance sheet, a profit and loss account and the notes to the accounts. The stated general principles for the valuation of items in the annual accounts are among the others prudence and consistency in the application of the methods of valuation.[14] The Fourth Directive lists the information, which must be provided in the notes to the accounts.[15] The annual report must include a fair review of the development of the company's business and of its position. It must also provide information on any important events that have occurred since the end of the financial year, the

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[13] The EU Directives are applicable to all Member States and set certain aims, requirements and concrete results that must be achieved in every Member State. National authorities must create or adapt their legislation to meet these aims by the date specified in each given Directive. Regulations instead have direct application and enforceability in all Member States and do not have to be enacted in national legislation to take effect.

[14] See Article 31, Fourth Council Directive 78/660/EEC of 25 July 1978.

[15] The information that must be provided in the notes to the accounts are the valuation methods applied to the various items, undertakings in which the company holds a certain percentage of the capital, certain types of the company's debts, financial commitments not included in the balance sheet, etc.

company's likely future development and activities in the field of research and development. Lastly, the Directive provide for a system of auditing under which companies must have their annual accounts audited by one or more persons authorised by national law to audit accounts. Such a person or persons must also verify that the annual report is consistent with the annual accounts for the same financial year.

The Seventh Council Directive 83/349/EEC of 13 June 1983 defines the circumstances in which consolidated accounts must be presented. Any company (parent company) which legally controls another company (subsidiary company) must prepare consolidated accounts. In most cases, legal control takes the form of the holding of a majority of voting rights. Member States may also require consolidated accounts to be prepared in cases where a parent company has only a minority shareholding but exercises de facto control. Member States may also exempt some companies from this obligation according to the figures contained in the Seventh Directive. These figures are thresholds for defining the groups, which can be exempted completely from the consolidated accounts requirement.[16] The consolidate accounts must include a fair review of the development of the company's business and of its position and are subject to auditing by one or more authorized persons as well.

In 1995, the European Commission decided to adhere to the International Accounting Standard Board (IASB) standards to strengthen European accounting requirements, instead of further developing specific European accounting rules. Five years later (June 2000), the European Commission proposed to introduce the IFRS for the presentation of consolidated financial statements of all European listed companies. This proposal became regulation in 2002. Regulation (EC) No 1606/2002[17], also known as IAS Regulation, requires all listed companies to prepare their consolidated financial statements in accordance with a single set of international standards, i.e. IFRS.[18] The standards' purpose is to enhance the transparency and comparability of company accounts. This in turn increases market efficiency and reduces the cost of raising capital for companies improving competitiveness and boosting growth in the EU.

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[16] Fourth Directive (1978) defines "Small" companies as companies which, on their balance sheet dates, do not exceed the limits of two of the following three criteria:
  − Balance sheet total: EUR 4 400 000;
  − Net turnover: EUR 8 800 000;
  − Number of employees: 50.
[17] Regulation (EC) no 1606/2002 of the European Parliament and of the Council of 19 July 2002 on the application of International Accounting Standards.
[18] The first standards issued by IASB were International Accounting Standards (IAS). Those were renamed to IFRS in 2001.

The process regarding IFRS adoption was completed by Regulation (EC) No 1126/2008[19], which codifies IFRS as adopted by the EU. The process for the introduction of a new accounting standard requires first the endorsement at EU level. Subsequently, the European Commission publishes an amending regulation, which is directly applicable in all EU countries. Regulation (EC) No 1126/2008 has been amended several times to include all the standards presented by the IASB since 2008, including the amendments from 2012 on consolidated financial statements, partnerships and information to be provided on interests held in other entities. Meanwhile, Fair Value Directive 2001/03/EC[20] and Modernization Directive 2003/51/EC[21] amended the Fourth and Seventh Directives to eliminate incompatibilities between European accounting rules and IFRS.

Another important development in the European financial reporting regulation is the Transparency Directive (TD) or Directive 2004/109/EC[22] issued in 2004 and amended by the Transparency Directive Amending Directive (TDAD) or Directive 2013/50/EU[23] in 2013. TD aims to ensure information transparency for investors through a regular flow of disclosure of periodic and on-going regulated information and the dissemination of such information to the public. Regulated information consists of financial reports, information on major holdings of voting rights and other disclosures based on Market Abuse Directive (2003/6/EC)[24]. As reported by PwC (2017), periodic reporting requirements are the following:

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[19] Commission regulation (EC) No 1126/2008 of 3 November 2008 adopting certain international accounting standards in accordance with Regulation (EC) No 1606/2002 of the European Parliament and of the Council.

[20] The Fair Value Directive applies to financial statements subject to the Fourth and Seventh Directives and the Bank Accounts Directive. It requires Member States to either permit or require the use of fair value accounting for some financial assets and financial liabilities in companies' consolidated financial statements; and gives Member States an option additionally to either permit or require the use of fair value accounting for some financial assets and financial liabilities in companies' legal entity financial statements.

[21] Directive 2003/51/EC of the European Parliament and of the Council of 18 June 2003 amending Directives 78/660/EEC, 83/349/EEC, 86/635/EEC and 91/674/EEC on the annual and consolidated accounts of certain types of companies, banks and other financial institutions and insurance undertakings.

[22] Directive 2013/50/EU of the European parliament and of the council of 22 October 2013 amending Directive 2004/109/EC of the European Parliament and of the Council on the harmonization of transparency requirements in relation to information about issuers whose securities are admitted to trading on a regulated market, Directive 2003/71/EC of the European Parliament and of the Council on the prospectus to be published when securities are offered to the public or admitted to trading and Commission Directive 2007/14/EC laying down detailed rules for the implementation of certain provisions of Directive 2004/109/EC.

[23] Directive 2013/50/EU the European Parliament and of the Council of 22 October 2013 amending Directive 2004/109/EC of the European Parliament and of the Council on the harmonisation of transparency requirements in relation to information about issuers whose securities are admitted to trading on a regulated market, Directive 2003/71/EC of the European Parliament and of the Council on the prospectus to be published when securities are offered to the public or admitted to trading and Commission Directive 2007/14/EC laying down detailed rules for the implementation of certain provisions of Directive 2004/109/EC.

[24] Directive 2003/6/EC of the European Parliament and of the Council of 28 January 2003 on insider dealing and market manipulation (market abuse). Market abuse may arise in circumstances where investors have been unreasonably disadvantaged, directly or indirectly, by others who:
    – have used information which is not publicly available (insider dealing);

- Interim management statements (IMS). Between 10 weeks after the beginning and six weeks before the end of the relevant six month period.

- Half-yearly reports. Two months from half-year date.

- Annual financial reports. Four months from year-end date.

The Accounting Directive (AD)[25] was published on 26 June 2013, entered into force on 20 July 2013 and is effective in Member States (date of transposition) since 20 July 2015. This directive replaces the existing Fourth and Seventh Directives on company law, which addressed reporting by companies generally, and by groups. One of the main changes introduced by this directive is the maximum harmonization regime for small undertakings. Harmonization implies a reduction in Member State Options to add any further disclosure requirements that are needed for a true and fair view or to meet user needs in their national context. Member states have no more the option to require increasing disclosures for certain financial statement items in respect of small undertaking. This option instead is available for medium-sized and large companies.

2.1.2 The accounting standards: IFRS and US GAAP

The role of accounting standards, e.g. IFRS and US GAAP, is critical for mandatory disclosure. They represent a guideline for financial accounting. In other words, they support firms in preparing and presenting their performance to the public. The Securities Act of 1933 and the Securities Exchange Act of 1934 introduced US GAAP. US GAAP are promulgated by FASB, which is an independent board created in 1973. IFRS are other existing accounting standards. They are issued by IASB since April 2001 and have replaced International Accounting Standards (IAS). On 19 July 2002, EU Parliament passed a regulation requiring the adoption of IFRS for all companies listed in the EU for fiscal years starting after 1 January 2005.

Most of the world's capital markets now require IFRS, or some form thereof, for financial statements of public-interest entities. The remaining major capital markets not adopting IFRS are (PwC, 2016a):

- have distorted the price-setting mechanism of financial instruments;
- have disseminated false or misleading information.
This type of conduct can undermine the general principle that all investors must be placed on an equal footing.
[25] Directive 2013/34/EU of the European Parliament and of the Council of 26 June 2013 on the annual financial statements, consolidated financial statements and related reports of certain types of undertakings, amending Directive 2006/43/EC of the European Parliament and of the Council and repealing Council Directives 78/660/EEC and 83/349/EEC.

- US, where domestic public companies must use US GAAP, while IFRS Standards are permitted for both domestic public companies and foreign companies;

- Japan, where domestic public companies are permitted but not required to use IFRS standards. They are also permitted for listings by foreign companies together with Japanese GAAP, Japan's Modified International Standards (JMIS), and US GAAP;

- India, which has not adopted IFRS Standards for reporting by domestic companies and has not yet formally committed to adopt IFRS Standards; and

- China, which has committed to adopt IFRS Standards for reporting by at least some domestic companies at some undefined future date.

The IFRS foundation is monitoring IFRS standards application around the world and currently the profiles of 150 jurisdictions, including all of the G20 jurisdictions, have been completed.[26] 126 jurisdictions (84 per cent of the profiles) require IFRS Standards for all or most domestic publicly accountable entities —listed companies and financial institutions— in their capital markets. Expect Bhutan, which will begin using IFRS standards in 2021, all other jurisdictions have already adopted IFRS Standards. The remaining 24 jurisdictions behave as follows:

- 12 jurisdictions permit, rather than require, IFRS Standards (Bermuda, Cayman Islands, Guatemala, Honduras, Japan, Madagascar, Nicaragua, Panama, Paraguay, Suriname, Switzerland, Timor-Leste);

- One jurisdiction requires IFRS Standards for financial institutions but not listed companies (Uzbekistan);

- One jurisdiction is in process of adopting IFRS Standards in full (Thailand);

- One jurisdiction is in process of converging its national standards substantially (but not entirely) with IFRS Standards (Indonesia); and

- Nine jurisdictions use national or regional standards (Bolivia, China, Egypt, Guinea-Bissau, India, Macao, Niger, United States, Vietnam).[27]

Figure 1 shows the pervasiveness of IFRS adoption. Following the broad worldwide acceptance of IFRS, the FASB signed the Norwalk agreement with IASB in 2002 to explore the

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[26] The IFRS Foundation is a not-for-profit, public interest organisation established to develop a single set of high-quality, understandable, enforceable and globally accepted accounting standards —IFRS Standards— and to promote and facilitate adoption of the standards. It has a three-tier governance structure, which includes International Accounting Standards Board, IFRS Foundation Trustees and IFRS Foundation Monitoring Board.

[27] All the information concerning jurisdictions adopting IFRS are available at: http://www.ifrs.org/use-around-the-world/use-of-ifrs-standards-by-jurisdiction/.

possibilities of convergence of US GAAP with IFRS standards (Chatterjee et al. 2016). This commitment was renewed in a Memorandum of Understanding (MOU) between IASB and FASB originally issued in 2006 and updated in 2008 and 2010 (FASB, 2014). Since 2007, the SEC has accepted IFRS-based financial statements from foreign issuers without any need to reconcile such statements with US GAAP (SEC, 2008), and since 2010, multinational companies are allowed by SEC to report earnings according to IFRS. "The original goal was for all US companies to adopt IFRS by 2014, but that self-imposed deadline has come and gone" (McQuilkin and Ruggieri, 2015). There is no commitment to adopt IFRS standards by US yet. But the discussion about the use of IFRS in the US continues.

There are many advantages related to the convergence of US GAAP with IFRS standards. First, the comparability of financial statements, which is necessary due to the globalization of capital markets (McQuilkin and Ruggieri, 2015). Second, the economic benefits of adopting IFRS: "a reduction in the cost of capital and a potential increase in capital flows" (Chatterjee et al., 2016). Investors can easier compare investments in foreign securities, access capital in other countries and acquire stock in the companies (McQuilkin and Ruggieri, 2015). In other words, the adoption of IFRS by US can contribute to the integration of capital markets and to the development of stock markets by eliminating the barriers to investments.

"The FASB and the IASB convergence projects have made significant progress in increasing uniformity between US GAAP and IFRS in areas such as share-based payments, business combinations, inventory and segment reporting" (Chatterjee et al., 2016) . However, there are still significant differences between US GAAP and IFRS in different areas (see PwC, 2016a). Some differences are the conceptual approach, the accounting treatment of certain line items and the presentation of financial statements.

The main difference concerns the methodology. US GAAP standards are rules-based, while IFRS standards are principles-based. "The rule-based standards, the dominant approach of FASB, try to anticipate all or most of the problems and find solutions, while the principle-based standards, the dominant approach of IASB, are less prescriptive and are based on the objectives and the principles which need to be followed" (Hlaciuc et al., 2014). IFRS potentially lead to different interpretations for similar transactions; therefore, it may require extensive disclosures in the financial statements. On the other hand, the principles may allow the companies to better represent their business to the public.

The accounting treatment difference involves inventory, development costs and revenue recognition. Regarding inventory, the discrepancies are related to the allowed assessment methods, the calculation of depreciation, the recognition of impairment reversals, the accounting of the inventories resulting from agricultural activities (Hlaciuc et al., 2014; Chatterjee et al., 2016)[28]. Regarding the development costs, FASB ASC (Accounting Standards Codification) 730 requires their recognition as expenses, while IAS 38 requires that the development costs should be capitalized. There are conceptual differences that involves also the revenue recognition. US GAAP guidance focuses on "revenue being (i) either realized or realizable and (ii) earned" (PwC, 2016a). Conversely, IAS 18 requires that goods should be recognized when certain criteria have been satisfied. The criteria involved are the transfer of significant risks, the absence of ownership or control over the goods, the reliability of the sales amount and the related costs.[29]

Many differences concern the presentation of financial statements (Hlaciuc et al., 2014). Under IAS 1, a complete set of financial statements includes also comparative information; instead, US GAAP specify no requirements for comparative information.[30] The most significant difference between income statement and statement of comprehensive income is that under IFRS an entity can present expenses based on their nature or their function, while US GAAP require all expenses to be classified by function (PwC, 2016a). The statement of changes in equity must be presented as a primary statement under IFRS; US GAAP instead permit to present this statement also within the notes to the financial statements.

Financial researchers have different opinions concerning the US GAAP and IFRS convergence. On one hand, those supporting the convergence project and the use of global accounting standards. On the other hand, those arguing that in the future accounting standards will adapt to the countries peculiarities losing part of their global reach. Notwithstanding the "magnitude of the differences" that exist between IFRS and US GAAP, McQuilkin and Ruggeri

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[28] For example, the allowed assessment methods for inventory are quite different. IFRS standards prohibit the use of last-in, first-out, or LIFO, inventory accounting methods, while US GAAP allow for LIFO. Inventory reversals are permitted by IFRS under certain conditions, but are not allowed by US GAAP. Both accounting standards allow for the first-in, first-out method, or FIFO, and the weighted average cost method.

[29] In more detail, the criteria to be satisfied are the following:
- "the seller has transferred to the buyer the significant risks and rewards of ownership,
- the seller retains neither continuing managerial involvement to the degree usually associated with ownership nor effective control over the goods sold,
- the amount of revenue can be measured reliably,
- it is probable that the economic benefits associated with the transaction will flow to the seller, and
- the costs incurred or to be incurred in respect of the transaction can be measured reliably" (IAS 18).

[30] A comparative statement is a document that compares a particular financial statement with prior period statements or with the same financial report generated by another company.

(2015) state that the advantages of a global financial reporting system outweigh the disadvantages. However, it is necessary a step-by-step analysis of the process due to the several changes that the IFRS adoption in US requires (Chatterjee et al., 2016). Kothari et al. (2009) affirm that the "competition between the FASB and IASB is the most effective means of achieving a set of U.S. GAAP rules that are likely to facilitate efficient capital allocation." However, they argue that unlikely a single global standard setter like the IASB can survive and succeed and that "international standards are likely to modify and adapt those standards to local conditions". Indeed, countries differ in many aspects, including political and legal regimes, institutional development, corruption, and culture (Bushman and Landsman, 2010).

2.1.3 The impact of mandatory disclosure on the market

When companies increase the levels of disclosure, this reduces "the possibility of information asymmetries arising either between the firm and its shareholders or among potential buyers and sellers of firm shares" (Leuz and Verrecchia, 2000). Financial research provides insights on the role of accounting mandatory disclosure on the capital markets. The first part presents a new disclosure measure, which captures the level of disaggregation of accounting data in firms' annual reports. Second, the literature about the relation between earnings and market features, in particular the cost of capital, is briefly reviewed. The last part concentrates on the role of accounting standards, in particular on the effect of the mandatory adoption of IFRS standards by the European Union and around the world on the capital markets.

Measuring disclosure

In accounting research, there are two main types of disclosure measures: voluntary disclosure measures and measures that capture firms' overall disclosure quality. The first type includes management earnings forecasts and conference calls; therefore, these measures are based on forward-looking information provided by management. The second type of disclosure measures are subjective disclosure indices constructed by researchers (e.g., Botosan, 1997) or by analysts (e.g., AIMR scores). [31] Chen et al. (2015) argue that the latter disclosure measures are "sometimes

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[31] Botosan (1997) elaborates a disclosure index (DSCORE), whose items reflect five categories of voluntary information identified by investors and financial analysts as useful in investment decision-making. The five categories are (1) background information, (2) summary of historical results, (3) key non-financial statistics, (4) projected information and (5) management discussion and analysis. The AIMR scores represent analysts' assessment of the informativeness of the firms' overall disclosure practices. The higher AIMR scores, the more informative financial disclosures. Lang and Lundholm (1996) summarize their evaluation about firm's disclosures using a score in each of the following categories: annual published information, other published information (including quarterly, press releases and proxy statements) and investor relations.

loosely referred to as voluntary disclosure measures". Indeed, these measures includes both voluntary and mandatory elements.

A disclosure measure for mandatory information is developed by Chen et al. (2015). They propose the Disaggregation Quality (DQ), which captures the level of disaggregation of accounting data in firms' annual reports through a count of nonmissing Compustat line items, and reflects the extent of details in firms' annual reports. DQ is "an overall measure of the fineness of financial statement information" presented in firms' annual reports. DQ differs from voluntary disclosure measures, because it captures the quality of historical information in mandatory filings instead of voluntary forecasts. In addition, DQ is different from measures capturing firms' overall disclosure quality. Indeed, it is based on all Balance Sheet and Income Statement line items, either reported in the financial statements or in the footnotes, not just on the items judged to be most important by researchers and analysts. Thus, DQ is more objective. There is a difference also with measures of disclosure readability, such as the Gunning Fog Index (Li, 2008). DQ captures the level of details of accounting data items included in annual reports, while the Fog index, developed by Robert Gunning, captures text complexity as a function of syllables per word and words per sentence.

Empirical evidence shows that higher DQ is associated with lower forecast dispersion and higher forecast accuracy. This is "consistent with DQ capturing disclosure quality" and inconsistent with DQ capturing complexity of operations. Therefore, the number of nonmissing items for each firm-year captures how detailed firms' financial statements are and can be used as an overall measure of disclosure quality of the company's annual reports filed that year. Furthermore, DQ is negatively associated with bid-ask spread and cost of equity.[32]

DQ measure presents both advantages and caveats. It can be easily replicated because it can be constructed for all Compustat industrial firms, is stingy, and is based on data readable by machines. In addition, "DQ can be constructed for each firm-year and does not require time-series data to compute" (Chen et al., 2015). Finally, this measure captures a unique aspect of disclosure quality, the level of details of accounting data in annual reports; therefore, it can be used together with the other types of disclosure measures. DQ has two disadvantages. First, it does not distinguish between recognition (financial statement items) and disclosure (footnote items). Second, it captures classification shifting under only certain circumstances (Chen et al., 2015).

Prior to Chen et al. (2015), other authors (e.g. Fairfield et al., 1996 and Hermann et al., 2000) have examined the relation between the earnings disaggregation and the market. Fairfield et

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[32] Chen et al. (2015) prove the consistency of DQ through three sets of validation tests.

al. (1996) investigate whether the line items on the income statement can be used to improve forecasts of future profitability. Empirical evidence demonstrates that "disaggregating earnings is useful in forecasting future profitability". For the average firm, disaggregating earnings into operating income, non-operating income and income taxes, special items, and extraordinary items and discontinued operations increases the predictive ability of financial statement.[33] Hermann et al. (2000) "evaluates and compares the income reporting practices of retail and manufacturing firms in the USA and Japan by (i) estimating the persistence coefficients of earnings components and (ii) measuring the improvement in forecast accuracy achieved by earnings disaggregation". They find that greater earnings disaggregation increases the informativeness of earnings in both countries. Furthermore, the accuracy of earnings forecasts for both countries significantly improves with each successive disaggregation of earnings. Fairfield et al. (1996) and Hermann et al. (2000) differ for the found level of disaggregation improving forecast accuracy. According to Fairfield et al. (1996) beyond this level of disaggregation (i.e. operating income, non-operating income plus taxes, special items, and nonrecurring items) forecast accuracy does not improve. While Hermann et al. (2000) find improvements in forecast accuracy also at further levels of earnings disaggregation. The slight difference between their results is likely due to sample composition and/or time-period.[34]

Summarizing, Fairfield et al. (1996), Hermann et al. (2000) and Chen et al. (2015) conclude that the higher the level of disaggregation in financial reports, the higher is the analyst forecast accuracy. Therefore, the level of disaggregation can be associated to mandatory disclosure quality.

The role of disclosure of fundamentals

Among firms' fundamentals, earnings are likely to be the most studied value. Earnings represent a critical financial accounting information, because they show the company's profitability. According to Francis et al. (2004), earnings have seven attributes: "quality, persistence, predictability, smoothness, value relevance, timeliness and conservatism". The first four are accounting-based attributes, because they are typically based on accounting information only. The last three attributes are "market-based", because these measures are based on the estimated relation between accounting earnings and market prices or returns.

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[33] As concerns extraordinary items and discontinued operations, Fairfield et al. (1996) argue that they can be ignored in forecasting future profitability. While special items are informative even if they do not reflect normal operations, because they are likely to recur (Chen et al., 2015).

[34] Fairfield et al. (1996) include all nonfinancial firms over the 1973-90 period, while Hermann et al. (2000) include only manufacturing and retail firms over the 1985-94 period.

Several financial researchers have deepened the relation between earnings and their attributes, and the market, in particular the cost of capital (e.g. Collins et al., 1997; Francis et al., 2004). Bhattacharya et al. (2003a) investigate the earnings from another point of view: they analyse the earnings lack of information and their impact on equity markets. In wider terms, Lambert et al. (2007) examine the effects of mandatory disclosure of accounting information.

Collins et al. (1997) investigate systematic changes in the value-relevance of earnings and book values over time. Prior research claims a loss in value-relevance of earnings.[35] In contrast to those claims, Collins et al. (1997) find that "the combined value-relevance of earnings and book values has not declined over the past forty years and, in fact, appears to have increased slightly". Second, the decline in the value-relevance of 'bottom line' earnings has been replaced by incremental value-relevance of book values. Finally, the shift in value-relevance from earnings to book values can mainly be explained by the incremental significance of one-time items, "the increased frequency of negative earnings, and changes in average firm size and intangible intensity across time".

Francis et al. (2004) analyse the relation between accounting earnings attributes and investors' decisions about resource allocation, using the cost of equity capital as a "summary indicator" of those decisions. Consistent with expectations based on previous research, they find a "statistically reliable association, in both cross-sectional and time-series tests, between each attribute considered individually and measures of the cost of equity capital".[36] Estimating conditional associations that include all seven earnings attributes, the results show that the market-based attributes (i.e. value relevance, timeliness and conservatism) are dominated by the accounting-based attributes (i.e. quality, persistence, predictability and smoothness).

Bhattacharya et al. (2003a) examine earnings from another perspective. They measure the earnings opacity, i.e. the earnings lack of information. They hypothesize that earnings aggressiveness, loss avoidance and earnings smoothing are associated with uninformative or opaque earnings. The purpose is to investigate whether informational risk related to accounting earnings may impact equity markets around the world. Combining the three measures of earnings opacity they obtain an "overall earnings opacity time-series measure per country", which is associated with variables that might impact the overall quality of a country financial reporting

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[35] See Lev (1997), Ramesh and Thiagarajan (1995), Amir and Lev (1996).

[36] Francis et al. (2004) cross-sectional tests demonstrate that earnings quality, earnings persistence and value relevance have strong conditional effects on the cost of equity capital. In time-series tests, only the two accounting-based attributes, quality and persistence, have significant conditional effects.

regime. After controlling for other influences, they find that greater overall earnings opacity in a country causes higher cost of equity and lower volume of trading in the stock market of that country.[37]

More generally, Lambert et al. (2007) concentrate their financial research on the link between the mandatory disclosure of accounting information and the cost of capital of firms, which is "one of the most fundamental issues in accounting". An increase in the quality of mandated disclosures should in general reduce the cost of capital for all firms in the economy. However, empirical evidence shows that "the firms' expected returns (and cost of capital) do not change by the same proportion for all firms". In conclusion, even if the value relevance of earnings has decreased in the last years in favour of book values, there is still a negative association between earnings and the cost of capital.

The effect of accounting standards on capital markets: the IFRS case

Part of the corporate mandatory disclosure is defined by the accounting standards. The accounting standards support firms in preparing the financial statements that present their performance to the public. The introduction of IFRS for listed companies in many countries around the world is one of the most significant regulatory changes in accounting history (Daske et al., 2008). The purpose of IFRS is to enhance comparability of financial statements, improve corporate transparency, increase the quality of financial reporting, and hence benefit investors in general (e.g., EC Regulation No. 1606/2002). The regulators' expectations were ambitious and several financial researchers examine the effect of the mandatory adoption of IFRS by the European Union and around the world on the capital markets. The first group of papers considered analyses the association between mandatory IFRS adoption and the economic consequences on the capital markets (e.g. Daske et al., 2008; Byard et al., 2011; Li, 2010). Instead Landsman et al. (2012) focuses on the information content of annual earnings announcements following mandatory IFRS adoption in 16 countries. Christensen et al. (2013) also investigate the liquidity benefits around mandatory IFRS adoption, but their results are mixed compared to previous papers. Finally, Barth et al. (2008) examine whether application of IAS/IFRS is associated with higher accounting quality.

Based on a sample of over 3,100 firms in 26 countries, Daske et al. (2008) provide early evidence on the capital-market effects of IFRS adoption. They find that mandatory adopters

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[37] Bhattacharya et al. (2003a) employ two distinct approaches to measure the effect of the cost of equity: dividend discount model and international asset pricing factor model.

experience statistically significant increases in market liquidity after IFRS reporting becomes mandatory, but only in countries with a relatively strong rule of law. Consistent with the liquidity improvements, they also document a decrease in firms' cost of capital and a corresponding increase in Tobin's q, when accounting for the possibility that these effects occur prior to the official IFRS adoption date.[38] "The latter suggests that the market anticipates the economic consequences of the mandate".

The positive effect of mandatory IFRS adoption in countries with strong legal regime is documented also by Byard et al. (2011), who analyse the impact of the mandate on analyst side. Empirical evidence shows a decrease in forecast errors and in forecast dispersion around mandatory IFRS adoption, but only in countries with strong legal regimes that have also large differences between local GAAP and IFRS. On the contrary, they find no statistically significant differences in the other countries adopting IFRS. They conclude that "simply mandating IFRS is not sufficient to ensure actual changes to firms' financial reporting practices".

Li (2010) examines the effect of mandatory IFRS application on cost of capital. The evidence provides that mandatory IFRS adoption lowers significantly firms' cost of capital. Results suggest that "increased disclosure and enhanced comparability are two mechanisms behind the cost of equity effects of mandatory IFRS adoption". Mandatory adopters experience a significant reduction in the cost of capital, around 47 basis points. However, this reduction is significant only in countries with strong legal enforcement mechanisms.

Focusing on the information content of annual earnings announcements, Landsman et al. (2012) find that firms in countries having adopted IFRS experience a greater increase in abnormal return volatility and abnormal trading volume than firms from non-IFRS adopting countries. In addition, empirical evidence shows that firms from countries with strong enforcement experienced a greater change in information content than firms from countries with weak enforcement.

In sum, these studies provide evidence that mandatory IFRS reporting yields "significant capital-market benefits as long as countries have strong legal and institutional systems" ensuring that the new standards are properly implemented and enforced (Christensen et al., 2013). On the contrary, the results of Christensen et al. (2013) are inconsistent with the view that mandatory IFRS reporting has widespread positive capital-market effects in countries that have high levels of enforcement and strong institutions. They find that "liquidity improves around substantive changes

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[38] Tobin's q ratio is calculated as the market value of a company divided by the replacement value of the firm's assets. It is based on the hypothesis, formulated by James Tobin, that the combined market value of all the companies on the stock market should be more or less equal to their replacement costs.

in enforcement but not around IFRS adoption", suggesting that changes in financial reporting enforcement play a crucial role for the observed liquidity effects.

Barth et al. (2008) investigate the effect of IAS/IFRS application, which is intended as "the combined effect of the features of the financial reporting system", on the accounting quality.[39] The accounting quality increases in case of less earnings management, more timely loss recognition and higher value relevance. In the postadoption period firms applying IFRS generally evidence less earnings management, more timely loss recognition, and more value relevance of accounting amounts than do firms not applying IFRS. However, the differences between firms applying IFRS and those not implementing these accounting standards in the preadoption period do not explain the registered gap in the postadoption period. Furthermore, "firms applying IFRS exhibit higher accounting quality in the postadoption period" than in the preadoption period, although almost all of the differences in changes in accounting quality metrics are not significant.

In conclusion, some financial researchers (e.g. Daske et al., 2008; Byard et al., 2011; Li, 2010; Landsman et al., 2012) find that the introduction of IFRS have had a positive impact mainly in countries with strong legal regime and strong legal enforcement. On the contrary, Christensen et al. (2013) state that the observed economic consequences are due to the changes in financial reporting enforcement rather than to mandatory IFRS adoption. Finally, Barth et al. (2008) find a positive association between mandatory IFRS adoption and accounting quality in the postadoption period.

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[39] The financial reporting system is made by the accounting standards and their interpretation, enforcement and litigation.

2.2 Voluntary disclosure

Voluntary disclosure represents an alternative communication tool at disposal of companies. Firms provide voluntary information through different channels, such as analysts' presentations and conference calls, quarterly press releases, announcements on internet sites, management forecasts and other corporate reports. Since firms' owners delegated to the managers the run of the business, voluntary disclosure has become important and necessary (Adina and Ion, 2008). The purpose of voluntary disclosure is to enrich information disclosed under regulatory requirements.

Soft information and non-GAAP measures are two aspects of voluntary disclosure. Textual or soft information can give context to the quantitative data, provide more information about managerial expectations, and identify important qualifiers or caveats that cannot be deduced from numerical data (Ferris et al., 2013). NGMs are "financial measures […] other than financial measures defined or specified in the applicable financial reporting framework" (ESMA, 2015). They represent one of the main corporate managers' voluntary disclosures.

This section proceeds as follows. Section 2.2.1 provides a review of the recent regulation regarding soft information in US and in the European Union, and presents textual analysis features and the related literature. Section 2.2.2 deals with non-GAAP reporting and focuses on non-GAAP earnings determinants, exclusions and regulations.

2.2.1 Soft information

Soft information can be considered a completion of quantitative analysis, i.e. hard information. One way to investigate soft information is through textual analysis, whose aim is to describe the content and the features of texts. An aspect of textual analysis is readability. A text is more or less readable according to the effort required to understand the annual reports content.

Regulators and other authorities have intervened also to improve the quality and readability of soft information in financial reporting. In US, the Plain English Mandate (1998) provides rules to make filings and prospectuses more readable and informative. Instead, in the EU IASB has promoted the *Disclosure Initiative* (2013). In particular, the *Principles of Disclosure* project aims to solve the so-called 'disclosure problem'.

Regulation

Even if voluntary disclosure is defined as disclosures that are not explicitly required by regulations, laws or accounting standards, in recent years there have been some regulatory interventions to improve the quality of information, other than mandatory disclosure, provided by

the companies. In US, the SEC issued Plain English Mandate, which became effective since 1 October 1998.[40] The purpose is "to enhance the readability, quality, and presentation of financial reports, including prospectuses" (Ferris et al., 2013). Filings involved are any prospectus or security registrations (e.g. Forms 424, S-1, F-1, and their variants). Firms filing a compulsory prospectus are required to use plain-language. However, SEC encourage firms "to adopt these principles in all their filings and communications with shareholders" (Loughran and McDonald, 2014b).

The plain English rule [Rule 421(d)] requires companies to prepare the front page of their prospectuses substantially complying with the following six plain English principles:

- Short sentences;
- Definite, concrete, everyday language;
- Active voice;
- Tabular presentation or bullet lists for complex material, whenever possible;
- No legal jargon or highly technical business terms; and
- No multiple negatives.

Furthermore, Rule 421(b) currently requires the entire prospectus to be clear, concise, and understandable. The following techniques are required when writing the entire prospectus:

- Present information in clear, concise sections, paragraphs, and sentences. Whenever possible, use short explanatory sentences and bullet lists;
- Use descriptive headings and subheadings;
- Avoid frequent reliance on glossaries or defined terms as the primary means of explaining information in the prospectus. Define terms in a glossary or other section of the document only if the meaning is unclear from the context. Use a glossary only if it facilitates understanding of the disclosure; and
- Avoid legal and highly technical business terminology.

Finally, the plain English Handbook, released in August 1998, shows how to create clear SEC disclosure documents following well-established techniques for writing in plain English. Clearly, when drafting a document for filing with the SEC, companies must first meet all legal requirements.

Financial research analyses the effects of Plain English Mandate on accounting disclosure. Loughran and McDonald (2014b), Elliot et al. (2015) and Bonsall IV et al. (2017) utilize the plain

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[40] SEC, 17 CFR Parts 228, 229, 230, 239 and 274 [Release Nos. 33-7497; 34-39593; IC -23011 International Series No. 1113; File No. S7-3-97]

English attributes and principles as base of some disclosure measures. All of them conclude that this regulation contributes to the increased readability of firms' filings and prospectuses. To evaluate the impact of plain English on "managers' disclosure style", Loughran and McDonald (2014b) analyse Form 424, IPO prospectus, and 10-K filings over 1994-2009. They create a "standardized measure that aggregates six writing components" (sentence length, word length, passive voice, legalese, personal pronouns, and negative/superfluous phrases). Empirical evidence shows a dramatic impact of the Plain English Mandate and "the changes are observed in both mandated and non-mandated filings". Hence, the plain English rule substantially influence managerial behaviour.

Elliot et al. (2015) instead test the impact of more concrete language in disclosures on investors' willingness to invest in a firm. The reason is that "concrete language facilitates visualization and is less open to interpretation because it is more specific and contextualized". They find that the more concrete language is highlighted in a prospectus, the more investors are willing to invest in a firm. The plain English principles are the base of measures of financial reporting readability also in Bonsall IV et al. (2017). Their first measure is the Bog index, which incorporates negative and positive plain English attributes.[41] The second one is a "summary measure of readability that captures a broad range of plain English attributes" and it called Plain English Factor.[42] According to the results, firms filing prospectus experience lower values of both indexes over time, i.e. the documents are more readable.

Similarly, IASB has launched the *Disclosure Initiative* in 2013. The objective is to improve the effectiveness of disclosures in financial statements. Currently, the *Disclosure Initiative* includes six projects:

1. Amendments to IAS 1 to remove barriers to the exercise of judgment;
2. Amendments to IAS 7 to improve disclosure of liabilities from financing activities;
3. The *Materiality Practice Statement* project;
4. The *Definition of Material* project;
5. The *Principles of Disclosure* project;
6. The *Standards-level Review of Disclosures* project.[43]

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[41] The Bog Index is measured by Sentence Bog + Word Bog - Pep. The higher Bog Index, the less readable is the document.
[42] The Plain English Factor includes ten measures of plain English problems: passive verbs, hidden verbs, wordy phrases, legal words, jargon phrases, specialist words, abstract words, Bog Index, long sentences, and number of words.
[43] Amendments to IAS 1 and Amendments to IAS 7 are completed projects. The materiality implementation projects are related to the fact that financial statements may not contain enough relevant information and may include irrelevant

The *Principles of Disclosure* aims to identify disclosure issues and address them by developing new or clarifying existing principles of disclosure in IFRS Standards. IASB has identified three main concerns about disclosures in the financial statements, collectively termed as the 'disclosure problem':

– Not enough relevant information, which can lead to inappropriate investing or lending decisions;

– Irrelevant information, which can obscure relevant information and reduce information and understandability of financial statements;

– Ineffective communication, which can reduce understandability of financial statements.

The Discussion Paper related *Principles of Disclosure project* identifies seven principles to help entities communicating information more effectively in their financial statements. Information in financial statements should be (1) entity-specific; (2) clear and simple; (3) organized to highlight important matters; (4) linked to related information; (5) free from unnecessary duplication; (6) comparable; (7) in an appropriate format. Based on the comments to the Discussion Paper, the Board will decide whether to develop an Exposure Draft of proposals to amend or replace parts of IAS 1 – Presentation of Financial Statements.

Textual analysis

"Textual analysis is an emerging area in accounting and finance", consequently there are still not precise taxonomies (Loughran and McDonald, 2016).[44] Textual analysis can be considered as a subset of qualitative analysis and can be included in "the categories of either targeted phrases, sentiment analysis, topic modelling, or measures of document similarity".[45] Readability represents another aspect of textual analysis and it "attempts to measure the ability of the reader to decipher the intended message".

The methods that use textual analysis focus on specific words or phrases. For these methods, a critical aspect is 'word lists'. To measure the tone or sentiment of a financial document, "researchers typically count the number of words associated with a particular sentiment word list scaled by the total number of words in the document" (Loughran and McDonald, 2016). The word

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information. The Standards-level Review of Disclosures project aims to improve disclosure requirements in Standards. Further information is available at: http://www.ifrs.org/-/media/project/disclosure-initative/disclosure-initiative-principles-of-disclosure/discussion-paper/education-materials/principles-of-disclosure-snapshot-2017.pdf

[44] Many different disciplines use textual analysis, e.g. psychology, anthropology, linguistics, political science, journalism, and computer science (Loughran and McDonald, 2011). Therefore, textual analysis have other labels, such as content analysis, natural language processing, information retrieval, or computational linguistics.

[45] These methods focus on computationally extracting meaning from a collection of text.

lists are associated to different themes, such as positivity, negativity, uncertainty, litigiousness and weak and strong modal words.

Financial researchers frequently use the Harvard GI word lists because they are readily available. However, they were not created for business documents, and this represent their weakness when applied in financial contexts. Loughran and McDonald (2011) criticize the use of Harvard GI word lists for corporate disclosure arguing that "almost three-fourths of negative words from the Harvard dictionary [H4N-Inf list] found in 10-K filings are typically not negative in a financial context". For this reason, they create the Fin-Neg list, which contains a list of 2,337 words that normally have negative implications in a financial sense. Analysing a sample of 10-Ks and 10-K405s[46] over 1994 to 2008, they find that "the median returns for the H4N-Inf list do not reflect a consistent relation with the proportion of negative words".[47] Conversely, empirical evidence shows that the Fin-Neg list is significantly associated with announcement returns. The higher the negative words proportions, the lower the excess returns.[48]

In addition, Loughran and McDonald (2011) develop other five lists with positive, uncertain, litigious, strong modal and weak modal words. They analyse the link between the word lists and filing date returns, volume and postevent volatility. Empirical evidence shows that "firms using fewer negative, uncertain, modal strong, and modal weak words realize a more positive reaction from the market in the filing date event window". Only for the Harvard and Fin-Neg word lists, the more negative words appear in the 10-k, the higher the abnormal trading volume. Finally, a higher proportion of positive, negative, or modal words is linked with larger stock return volatility in the year after the filing. Overall, the results suggest that textual analysis can contribute to the understanding of the information impact on stock returns.

Following Loughran and McDonald (2011), many financial researchers use their word lists (hereinafter, L&M word lists) for textual analysis. Usually, L&M word lists, in particular the negative word list, are used to gauge the tone of filings and prospectuses (e.g. Feldman et al., 2010; Ferris et al., 2013). Other financial researchers use L&M word lists to measure tone in newspaper articles/columns (e.g. Dougal et al., 2012). Feldman et al. (2010) examine the impact of changes

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[46] 10-K405s is a form used by SEC prior to 2003. It was used to indicate that an officer or director of a company failed to file a Form 4 (or similar Form 3 or Form 5) on time, meaning that they did not disclose their insider trading activities within the required time frame.

[47] The H4N-Inf list includes H4N list (2,005 words) and the forms that retain the original meaning of the root word (2,178 words) for a total of 4,183 words. For example, it includes *odd* and the plural form *odds*.

[48] However, the adjusted R^2 of regression results is very low. This means that "textual analysis explains only a small amount of variation in filing period returns" (Loughran and McDonald, 2011).

in Management Discussion & Analysis (MD&A) tone on the market.[49] Using a large sample of 10-K and 10-Q filings, they find that the more positive the MD&A tone, the higher the stock market returns. Analysing the Wall Street Journal's "Abreast of the Market" column, Dougal et al. (2012) find a positive association between the pessimistic tone of the column and the negative market returns the following day. Ferris et al. (2013) apply textual analysis on IPO prospectuses. Their paper examines "the effect that conservatism or cautionary language (measured by negative tone)" might have on IPO performance. [50] They base their conservatism measure on L&M word list (Fin-Neg word list), because after performing tests on Harvard, Diction and Fin-Neg word lists, they conclude that the latter word list is "less likely to select wrong words for use in financial analysis, given its underlying source documents".[51] Based on empirical evidence they find that conservatism is useful in explaining IPO pricing and subsequent operating and stock return performance.

Research on the readability in the accounting field is substantial. However, early works are based on small samples or problematic methodologies (Loughran and McDonald, 2016). The first paper using a meaningful sample is Li (2008), which examines the extent to which annual report readability is related to firm performance and earnings persistence. Instead, Lehavy et al. (2011) analyse the relation between the readability of firms' written communication and financial analysts. Focusing on the investors' side, Lawrence (2013) investigates whether clearer and more concise financial disclosures can benefit individual investors. Regarding readability measures, De Franco et al. (2015) formulate two measures (straightforward language and conciseness) to analyse the readability of analyst reports and its link with investor behaviour. Loughran and McDonald (2014a) measure the "effective communication of information" using a file size metric. Finally, Bonsall IV et al. (2017) develop two measures of financial reporting readability based on plain English principles.

Using a sample of 55,719 firm-years with annual report filing dates between 1994 and 2004, Li (2008) examines the relation between annual report readability and firm performance and earnings persistence. The annual report readability is measured by the Gunning Fog Index (hereinafter, Fog Index), which captures text complexity as a function of syllables per words and words per sentence, and of the document length.[52] The Fog Index indicates the number of years of

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[49] Management discussion and analysis (MD&A) is the section of a company's annual report in which management provides an overview of the previous year's operations and how the company performed financially.
[50] The conservatism measure is calculated as negative words over total words times 100.
[51] Diction is a computer-aided text analysis program that uses predefined dictionaries related to five semantic features (Activity, Optimism, Certainty, Realism and Commonality).
[52] Li (2008) states that "everything else equal, longer documents seem to be deterring and more difficult to read".

formal education a reader of average intelligence would need to read the text once and understand that piece of writing with its word-sentence workload.[53] Concerning firm performance, Li (2008) finds that firms with poor performance have annual reports that are harder to read (i.e., high Fog Index values or high word counts). The results are statistically (but not economically) significant. Li also finds that companies with more readable annual reports have higher earnings persistence. The effect is economically significant. Putting everything together, empirical evidence suggests that "managers may be opportunistically structuring the annual reports to hide adverse information from investors".

Lehavy et al. (2011) assess whether the readability of firm communication affects analyst behaviour. In particular, they investigate (i) the effect of disclosure readability on analyst following; (ii) the association between individual analyst effort and the readability of 10-K filing; (iii) the relation between 10-K readability and the information content of analyst reports; (iv) the effect of disclosure on analyst earnings forecast properties, i.e. dispersion, accuracy, overall and common uncertainty. Based on a sample of 33,704 firm-year observations for fiscal years 1995–2006, Lehavy et al. (2011) find "a positive and significant association between a firm's 10-K Fog index and the number of analysts who cover the firm". To measure the analyst effort, they calculate the "analyst report duration", which is the number of days between the 10-K disclosure and the analyst report following the filing. Empirical evidence shows that the less readable the 10-K filings, the longer the time for analyst to issue their reports. Concerning the information content of analyst reports, Lehavy et al. (2011) find that "analyst reports of firms with less readable 10-K reports are more informative to investors". Finally, the properties of analyst earnings forecasts for firms with less readable 10-K reports are the following: (i) they prove to have greater dispersion; (ii) they are less accurate; and (iii) they are associated with greater overall analyst uncertainty. Furthermore, (iv) "analyst common uncertainty is increasing in 10-K Fog". Summarizing all the results, Lehavy et al. (2011) conclude that there is a relation between analyst behaviour and the readability of firms' communication.

Lawrence (2013) examines the relation between "clearer and more concise financial disclosures" and individual investors. The financial disclosure quality measures are the Fog index and the length of annual report, as in Li (2008). Based on a sample of 91,228 account-firm-year

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[53] The Gunning Fog Index is calculated as follows:
Fog = (words_per_sentence + percent_of_complex_words) * 0.4
FOG≥18 means the text is unreadable; 14–18 (difficult); 12–14 (ideal); 10–12 (acceptable); and 8–10 (childish).

observations with 1,555 separate firm-year observations, Lawrence (2013) finds that on average, individuals invest more in firms whose annual reports contain fewer words and have lower Fog index. Specifically, the more annual reports disclosures are readable and concise, the higher are individuals' shareholdings. In addition, abnormal returns are positively affected by the higher quality of financial disclosure. Indeed, "individual investors' abnormal returns are increasing in clearer and more concise disclosures".

To analyse the readability of analyst reports, De Franco et al. (2015) develop two readability measures, i.e. straightforward language and conciseness. The straightforward language is measured by the Fog index and the Flesch index. The latter consists of the Flesch-Kincaid and the Flesch Reading Ease.[54] Averaging the three measures, they obtain an aggregate measure of straightforward language.[55] To measure conciseness, they follow Li (2008) and use the length of the report. This measure is characterized by two components: the number of words and the number of characters in the report. As for straightforward language, they elaborate an aggregate measure of conciseness. Based on a large database of analysts' reports from 2002 to 2009, De Franco et al. (2015) analyse their readability and their link with investor behaviour. The empirical evidence demonstrates that more readable reports are issued by analysts having more experience, issuing more timely forecasts, revising forecasts more frequently and issuing more accurate forecasts. Hence, "high ability analysts provide more readable reports".

The objective of Loughran and McDonald (2014a) is to find the most suitable measure for annual report readability. Starting from the Fog index (the most commonly applied measure of readability) they demonstrate that it is "poorly specified when used to evaluate financial documents". The critical elements are the Fog index components, i.e. the words per sentence and the percentage of complex words. First, they argue that measuring sentence length in financial reports is "substantially less precise" than counting words per sentence in traditional prose. Second, counting syllables per word is not effective in measuring business documents' readability. Indeed, "by far the most frequently occurring complex words" (more than two syllables) are words such as "financial, company, operations, management, employees, and customers, which are easily

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[54] Flesch-Kincaid index is calculated as follows:
Flesch-Kincaid = (11.8 × syllables per word) + (0.39 × words per sentence) − 15.59
While the Flesch Reading Ease is calculated as:
Flesch Reading Ease = 206.8 − (1.015 × words per sentence) − (84.6 × syllables per word)
[55] As the Fog index, the Flesch measures are linear combinations of sentence length and syllables-based word length. "Flesch–Kincaid, similar to Fog, produces a grade-level measure but uses the average number of syllables per word as the second term", instead of percent of complex words (Loughran and McDonald, 2016). The Flesch Reading Ease measure uses the same inputs as Flesch–Kincaid, but the output is a score from 0 to 100.

understood by investors". Therefore, the increase in the percentage of complex words (counting for half of the value) leads to a decrease in the Fog index (i.e. the report is less readable), that does not completely reflect the actual readability of financial disclosures. Consistently, they find that "the Fog Index is not significant in explaining analyst dispersion or earnings surprises". In alternative to the Fog index, Loughran and McDonald (2014a) propose "the natural log of gross 10-K file size", which is available on the SEC's EDGAR Web site. This measure has different advantages: (i) easy to determine, (ii) "not prone to the substantial measurement errors", (iii) easy to replicate, and (iv) highly correlated with alternative measures of readability. Empirical evidence shows that there is a significant and positive association between large 10-Ks and high return volatility, earnings forecast errors, and earnings forecast dispersion.

However, Bonsall IV et al. (2017) criticize the 'file size of 10-K' as measure of readability for three reasons. First, it captures only one plain English attribute, i.e. clear presentation of complex information. Second, it does not consider the tone of the document, which is based on the actual language used in the document. Third, "text length explains only a minor portion of the variation in file size".[56] These weaknesses are primarily due to the growth of non-textual components in 10-K filings. The empirical evidence suggests that "file size appears to be a poorly specified measure of financial reporting readability". Given the shortcomings of Loughran and McDonald's (2014a) proposed measure of readability, Bonsall IV et al. (2017) develop their own measures of financial reporting readability based on the plain English attributes, i.e. the Bog Index and the Plain English Factor. To test their comprehensive measure of financial reporting readability, they use "a quasi-exogenous shock", i.e. the 1998 Plain English Mandate". They expect the prospectuses and filings of firms affected by the regulation to be more readable than those prior to 1998. Consistently. they find significant improvements in their measures of readability following the Plain English Mandate. On the contrary, the file size of 10-K does not significantly decrease over the same period suggesting that this measure does not capture the plain English attributes.

In conclusion, the measures of readability aim to capture the individual's ability to understand the information provided in the annual report. Financial researchers have extensively used the Fog index to measure readability (e.g. Li, 2008; Lehavy et al., 2011; Lawrence, 2013; De Franco et al., 2015). However, according to Loughran and McDonald (2014a), the Fog index is ineffective to evaluate financial documents. They propose an alternative, i.e. the natural log of

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[56] Bonsall IV et al. (2017) provide that "the average 10-K filing size on EDGAR in 2012 is 12.48 megabytes, but the average file size of the text is only 0.28 megabytes".

gross 10-K file size, which is statistically significant. In contrast, Bonsall IV et al. (2017) state that the file size of 10-K is not appropriate to measure financial reporting readability due to its shortcomings. In alternative, they elaborate the Bog Index and the Plain English Factor, which are based on Plain English attributes and are both statistically significant.

2.2.2 Non-GAAP disclosure

Non-GAAP measures (NGMs) are one of the main corporate managers' voluntary disclosures. SEC (2003) states that "non-GAAP financial amount is a numerical measure of a registrant's historical or future financial performance, financial position, or cash flows that exclude (include) amounts that are included (excluded) from the most directly comparable measure calculated and presented in accordance with GAAP". NGMs are also known as Pro Forma, Street, Core, or Operating earnings. Similarly, in the European Union, ESMA (2015) defines Alternative Performance Measures (APMs) as "financial measures of historical or future financial performance, financial position, or cash flows, other than financial measures defined or specified in the applicable financial reporting framework".

During the equity boom of the late 1990s, managers started to disclose NGMs in press releases and other management discussions to supplement the reported GAAP financial information. The main determinants explaining the recent companies' practice of disclosing NGMs are the following: (i) value relevance, (ii) reporting 'better' performance, (iii) media coverage and (iv) core business presentation.[57] Using a sample of 249 press releases between 1997 and 1999, Lougee and Marquardt (2004) find that the disclosure of NGMs is more likely in firms with less informative GAAP earnings. Further, their findings show that firms reporting GAAP earnings below analysts' expectations are more likely to integrate this information with non-GAAP earnings. Consistently, Bowen et al. (2005) analyse a sample of 1,518 earnings releases and find that "firms with low value-relevance of earnings place less emphasis on traditional GAAP earnings and greater relative emphasis on non-GAAP earnings". Hence, the less GAAP earnings are informative and value relevant, the more companies disclose non-GAAP earnings to increment the financial information reported.

The concept of reporting 'better' performance is closely related to value relevance. Bowen et al. (2005) find that managers emphasize the metric, either GAAP earnings or non-GAAP

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[57] Bowen et al. (2005) discuss determinants hypothesized to influence managers' emphasis on non-GAAP and GAAP performance. They analyze the following determinants: value relevance, reporting 'better' performance, media coverage and sophisticated users. However, their results with respect to sophisticated users are generally inconclusive.

earnings, which portrays the most favourable performance in their quarterly press releases. Similarly, Lougee and Marquardt (2004) find that firms failing to reach earnings benchmarks are more likely than other firms to include non-GAAP earnings in their quarterly press releases. Also Baumker et al. (2013) reports that "managers appear to prefer to report non-GAAP earnings that improve performance". The greater media exposure is considered another determinant for the disclosure of NGMs. Bowen et al. (2005)'s findings suggest that firms emphasize more non-GAAP earnings and less GAAP earnings if they are subject to greater media exposure. Using analyst-adjusted earnings numbers as a proxy for managers' non-GAAP reporting, Doyle et al. (2013) document that managers use non-GAAP earnings numbers "to meet or beat analyst forecasts".

Finally, managers claim that NGMs represent better the core business of their companies. Indeed, in their quarterly press releases, managers report non-GAAP metrics that exclude income statement items that they consider unusual or non-recurring. For example, Akamai Technologies, Inc. in its reconciliation of GAAP to Non-GAAP Financial Measures (March 31, 2017) affirms that 'Gains and losses on investments' are "not representative of Akamai's core business operations and ongoing operating performance", therefore the company excludes them from its non-GAAP financial measures.[58]

Non-GAAP earnings exclusions

The most common non-GAAP earnings metrics disclosed by companies in their quarterly press releases are the following: operating earnings; cash earnings; earnings before interest, taxes, depreciation and amortization (EBITDA). Most of the time the manager-adjusted earnings numbers are higher than the GAAP earnings numbers, because they generally exclude some expense items. Doyle et al. (2003) defines the difference between non-GAAP earnings and GAAP earnings as total exclusions. Total exclusions are divided into special items and other exclusions. Special items represent the difference between operating income and GAAP earnings. Other exclusions are simply the difference between total exclusions and special items: Prior research defines special items as exclusions that are "unusual or non-recurring items" (e.g. Doyle et al., 2013; Brown et al., 2012). Special items are known also as "high quality" exclusions. Conversely, Brown et al. 2012 argue that "low-quality" exclusions or other exclusions are those that persist in future periods and, therefore, are not fully transitory or unimportant as some managers claim.

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[58]Akamai Technologies, Inc. Reconciliation of GAAP to Non-GAAP Financial Measures. March 31, 2017. Available at: http://webcache.googleusercontent.com/search?q=cache:A-mKJbs0pXAJ:phx.corporate-ir.net/External.File%3Fitem%3DUGFyZW50SUQ9NjY5MzQxfENoaWxkSUQ9Mzc2MzM5fFR5cGU9MQ%3D%3D%26t%3D1+&cd=5&hl=it&ct=clnk&gl=it

The increasing disclosure of non-GAAP metrics by companies in press releases stimulates financial researchers to investigate their properties (Doyle et al., 2003), the most common types of adjustments made by managers (Black and Christensen, 2009) and the strategic and opportunistic use of the exclusions by managers (Bowen et al., 2005; Doyle et al., 2013). Examining the predictive ability of non-GAAP earnings for future performance, Doyle et al. (2003) find that the expenses excluded from non-GAAP earnings are "far from unimportant or non-recurring". The results are even more powerful after distinguishing between special items and other exclusions. Indeed, empirical evidence shows that special items have little predictive ability for future performance, (i.e., "they are generally unrelated to future cash flows"), while other exclusions have significant predictive ability for future performance (i.e., "they are powerfully predictive of negative future cash flows"). The latter results support the academic statement that other exclusions are not fully transitory or unrelated to future performance.

Black and Christensen (2009) investigate the extent to which different types of earnings adjustments affect the 'gap' between non-GAAP and GAAP income from continuing operations. Their results indicate that "four of the most economically significant exclusions are instead recurring items": (i) research and development costs, (ii) depreciation and amortization, (iii) tax-related expenses. In this way, non-GAAP earnings may not always reflect recurring income. However, managers also exclude income statement items that are "likely non-recurring" (e.g. restructuring charges and costs associated with the issuance of stock) and "one-time gains".[59] Hence, at least some managers aim to disclose real "core" earnings.

The purpose of Bowen et al. (2005) is to examine the extent to which managers strategically highlight performance metrics within their earnings press release. They consider two measures of emphasis: the *level* of emphasis (based on where non-GAAP and GAAP earnings are mentioned in the press release) and *relative* emphasis (the difference in placement between non-GAAP and GAAP earnings). Overall, their results underlines the strategic reporting of non-GAAP and/or GAAP earnings by managers within quarterly press releases. Finally, Doyle et al. (2013) distinguish between special items and unexpected exclusions (also labelled other exclusions in prior literature) to examine whether managers opportunistically use non-GAAP metrics and their exclusions. It appears that the use of other (unexpected) exclusions is the "primary means" by which managers meet or even exceed analyst forecasts. "The probability of a firm meeting or

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[59] "Firms excluding one-time gains actually report a non-GAAP earnings number that is lower than GAAP earnings before extraordinary items" (Black and Christensen, 2009).

beating increases by 20% when the firm uses other exclusions", while the results are insignificant for special items.

Financial research demonstrates that at least some non-GAAP earnings exclusions (i.e. those labelled other exclusions, unexpected exclusions or low-quality exclusions) are part of companies' core business, because they are not one-time items. Hence, managers are likely to use non-GAAP metrics opportunistically.

Pre- and post-regulations state of art

"The rapid growth and unregulated nature of non-GAAP disclosures [has] raised concerns among regulators and members of the financial press" at the beginning of the 21th century (Miller, 2009). They argue that non-GAAP earnings disclosures may be confusing or misleading for investors. Before the regulatory intervention the debate about the use of NGMs among academic researchers, regulators and market participants takes various forms. On one side, those supporting the management claims (e.g. Bhattacharya et al., 2003b; Bradshaw and Sloan, 2002). Managers affirm that NGMs represent better the core business of their companies. On the other side, those underlying that non-GAAP disclosure can be misleading (e.g. Doyle et al., 2003).

Consistent with management claims, Bhattacharya et al. (2003b), analysing short-window abnormal returns around earnings announcement dates, find that non-GAAP earnings are significantly more informative than GAAP operating earnings and more persistent. Similarly, Bradshaw and Sloan (2002) documents a "dramatic increase" in the association of non-GAAP earnings with stock prices and that the market focuses more on non-GAAP earnings than GAAP earnings. Conversely, Doyle et al. (2003) results support the idea that non-GAAP disclosure misleads investors. Indeed, they report that the predictive power of the excluded expenses is not fully appreciated by the market. Further, empirical evidence shows that firms applying relatively large exclusions to their non-GAAP earnings face relatively lower future cash flows and relatively lower stock returns over the next three years.

The work of Lougee and Marquardt (2004) does not answer the question of whether non-GAAP earnings are used by managers to mislead or inform investors. Indeed, their results may be interpreted as consistent with both sides of the non-GAAP disclosure debate. On one hand, they find that non-GAAP earnings have "greater relative and incremental information content when GAAP earnings informativeness is low or when GAAP earnings surprises are positive". On the other hand, there is no evidence of "greater relative or incremental information content when prior

GAAP earnings informativeness is high or the GAAP earnings surprise is negative". Hence, in the latter cases investors ignore non-GAAP earnings.

SEC analysed the use of non-GAAP reporting in 2001 and issued a cautionary guidance at the end of the year. SEC (2001) wishes to caution public companies on the use of non-GAAP financial information and to alert investors to the potential dangers of such information. Following the reforms contained in the SOX (2002), the SEC promulgated Reg G in January 2003. Reg G requires that firms disclosing non-GAAP earnings measures (i) present the most directly comparable GAAP measure, (ii) reconcile the non-GAAP measure to the most directly GAAP measure, and (iii) furnish to the Commission a Form 8-K within five business days of any public announcement or release disclosing material non-public information. Reg G is applicable to all public non-GAAP financial measure disclosures (e.g. oral, telephonically, press release, internet, etc.).

Similarly, ESMA published its final guidelines on APMs for listed issuers in 2015. ESMA (2015) want "to encourage European issuers to publish transparent, unbiased and comparable information on their financial performance in order to provide users with a comprehensive understanding of their performance". As in US, the regulators' scope is to ensure that firms disclose financial information that could not mislead investors, analysts and other important stakeholders. ESMA's guidelines are similar to the requirements on the presentation of subtotals introduced by IASB 'Disclosure Initiative – Amendments to IAS 1' (KPMG, 2017). The amendments to IAS 1 relate to (i) materiality, (ii) order of the notes, (iii) subtotals, (iv) accounting policies, and (v) disaggregation and are designed to further encourage companies to apply professional judgment in determining what information to disclose in their financial statements. Concerning subtotals, IAS 1 now requires that they should:

- Contain only items recognised and measured in accordance with IFRS;
- Be presented and labelled in such a way that the subtotal is understandable; and
- Be consistent from one period to the next.

Moreover, voluntary subtotals must not be presented with more prominence than subtotals required by the standard. Finally, any voluntary subtotals must be reconciled to the required subtotals by presenting each excluded item.

Academic research has explored the intended and unintended effects of Reg G.[60] The success of the U.S. Congress' and the SEC's efforts should result in fewer firms disclosing non-GAAP earnings that mislead investors (intended consequence). However, managers may opportunistically exclude NGMs when those are lower than GAAP measures. Therefore, there could be fewer firms disclosing non-GAAP earnings having more informative power (unintended consequence). Entwistle et al. (2006) analyse annual earnings press releases of all firms listed on the U.S. S&P 500 index for three years, 2001-2003. Their sample covers the period both prior and subsequent to the SEC regulation. The results display that "the number of firms reported non-GAAP earnings in a manner that could potentially mislead investors reduced from 53 in 2001 –over 10% of all S&P 500 firms– to 3 only two years later". They conclude that SEC regulation was "both necessary and effective". Consistently, Han (2012) find that the disclosure requirements provided by Reg G "discouraged managers from opportunistically disclosing non-GAAP earnings". Consequently, investors perceive the remaining non-GAAP earnings as more transparent after Reg G implementation. On the contrary, Baumker et al. (2013) reports that there continues to be an opportunistic component of non-GAAP reporting following Reg G. Indeed, they document "a sharp and continued decline in the disclosure of non-GAAP earnings excluding transitory gains following Reg G, which is likely an unintended consequence of this regulation". Managers appear to prefer to disclose NGMs reporting 'better' performance.

Black et al. (2015) examines whether the regulatory requirements imposed by SOX and Reg G have changed "managers' use of aggressive non-GAAP reporting practices" (opportunistic behaviour). The results suggest that the new regulatory requirements has, to some extent, succeeded in their purpose to reduce the number of firms disclosing non-GAAP earnings that mislead investors. Indeed, aggressive non-GAAP reporting has generally decreased in the post-SOX period. However, some firms continue to use non-GAAP exclusions opportunistically. For example, Doyle et al. (2013) states that managers opportunistically use non-GAAP earnings to meet or beat analysts forecasts. Through non-GAAP reporting, companies are more likely to meet or beat analyst forecasts, indicating that "analysts do not fully anticipate and unwind the exclusions that managers propose at the time of the earnings announcement".

An important mechanism that could mitigate the effects of non-GAAP reporting is corporate governance. Corporate governance is the system of rules, practices and processes by which a

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[60] Unfortunately there is not evidence on the effects of Disclosure Initiative yet, because it is effective for annual periods beginning on or after 1 January 2016.

company is directed and controlled. Jennings and Marques (2011) investigate the joint effects of corporate governance and regulation on the disclosure of manager-adjusted non-GAAP earnings in the U.S. The results suggest that "before the SEC intervention strong corporate governance was effective at protecting investors from misleading non-GAAP adjustments, but that investors were misled by adjustments made by firms with weaker corporate governance". However, the results also indicate that investor are no more misled by firms with weaker corporate governance. This suggests that "corporate governance can be viewed as a substitute for regulation".

In conclusion, financial research suggests that the disclosure of NGMs could be misleading for the public also in the post-SOX regulatory environment and that their misuse can be mitigated by strong corporate governance. Consistently, SEC continues to raise concerns regarding non-GAAP reporting. Recently, the SEC staff have updated its interpretive guidance 'Compliance & Disclosure Interpretations' ("C&Dis") on non-GAAP financial measures. C&Dis comprise the Division's interpretations of the rules and regulations on the use of non-GAAP financial measures. This guidance provides examples of NGMs potentially misleading and against Reg G (e.g. NGMs excluding non-recurring expenses, but including non-recurring gains) and disclosure examples in which NGMs are more prominent than the most directly comparable GAAP measures.

3. Balance sheet analysis

3.1 Background and hypothesis development

Background.

The balance sheet, also known as "statement of financial position", presents company assets, liabilities and shareholders' equity at a certain point in time. Reading the balance sheet investors gain awareness of what the company owns and owes, and the amount invested by shareholders. In US, SEC Regulation S-X, Article 5, Rule 5-02 (hereinafter, "Reg S-X 5-02") mandates the presentation of a classified balance sheet. In particular, Rule 5-02 indicates "the various line items and certain additional disclosures which, if applicable, […] should appear on the face of the balance sheets or related notes". The rules governing the presentation of the balance sheet items aim to ensure comparability among companies' financial statements and to grant a certain level of disaggregation.[61]

Some studies investigate the level of disaggregation in the financial statements and conclude that the mandatory information quality increases in case of a greater disaggregation. Fairfield et al. (1996) and Hermann et al. (2000) focus on the income statement and on the link between earnings disaggregation and analysts forecasts. Both affirm that a greater level of disaggregation improves the accuracy of earnings forecasts. In a more recent study, Chen et al. (2015) construct a new measure of disclosure quality, Disaggregation Quality (DQ), to capture the level of disaggregation of accounting data in firms' annual reports. They find that a greater level of disaggregation is associated with lower forecast dispersion and higher forecast accuracy.

IPOs represent an interesting case for the analysis of the balance sheet disaggregation. They enable entities to transform from a private company to a public company. The process of planning and executing an IPO is time-intensive. It involves different players, e.g. advisory team, external auditors, underwriters and other key advisors, and it has significant implications for the regulations compliances. The prospectus is part of the registration process with SEC and constitutes a central document for the communication to prospective investors. It contains disclosures about the company's business, results of operations, financial condition, management and other issues.[62] The

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[61]Reg S-X 5-02 requires SEC reporting entities to state separately balance sheet amounts that exceed certain quantitative thresholds. Current assets, any other assets and each class of intangible assets exceeding 5% of total assets must be presented separately. Entities must state separately the aggregate amount of notes receivable if it exceeds 10% of total receivables. Finally, current liabilities and any other liabilities exceeding 5% of total liabilities must be presented separately.

[62] Specifically, the IPO prospectus contains the following sections: Summary, Risk factors, Industry and market data, Use of proceeds, Capitalization, Financial data, MD&A of financial condition and results of operations, Business,

SEC Form S-1 is the preliminary prospectus for a US company IPO.[63] It is also known as the registration statement under the Securities Exchange Act of 1933. The final IPO prospectus, i.e. Form 424, must be filed within two business days after pricing and contains also the final information on pricing and underwriting. These forms specify the information, which must be disclosed under Regulation S-X and Regulation S-K.

Hypothesis development

The purpose of this study is to assess whether some independent variables (e.g. listing year, days between S-1 and 424 filings, industry type) affect the levels of disclosure (i.e. balance sheet disaggregation), and to examine whether the extent of balance sheet disclosure has an impact on the market (e.g. first-day returns).[64]

The disclosure of information in filings and prospectuses implies costs for the companies. While firms must disclose part of the information to comply with regulations, often they voluntarily provide additional disclosures. In case of voluntary disclosure, "it can reasonably be assumed that the benefits of disclosure are perceived to exceed the costs" (Cooke, 1992). The first set of hypotheses is to explore whether there are determinants for additional disclosures in the balance sheet. Second, the paper tests the hypothesis that the further levels of disclosure affect first-day returns.

In 2002, the US financial statement regulation has been significantly influenced by a great reform: SOX. Its aim is to ensure the reliability of publicly reported financial information and increase confidence in US capital markets. Given that all firms filing with SEC must comply with Regulation S-X, which requires public companies to present comparative financial statements, the disaggregation measures might not exhibit large year-to-year changes (Chen et al., 2015). With this premise, the first hypothesis related to the additional disclosure determinants states:

H1a: Balance sheet disaggregation in final IPO prospectuses is not associated with the listing year.

The number of calendar days between the S-1 filing and the filing of Form 424 on EDGAR may be a determinant for a higher level of disaggregation in the final IPO prospectus. Loughran

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Management, Executive compensation, Related-party transactions, Principal and selling shareholders, Underwriting and Legal matters.

[63] The other registration statements are Form S-3, Form S-4 and Form S-11. Generally, a company that already has securities registered with the SEC fill Form S-3 for the registration of new securities. Form S-4 is generally used for the registration of debt or equity securities issue connected to a merger or acquisition. Form S-11 may be used for the registration of securities issued by certain real estate companies.

[64] First-day return is the percentage change from the offer price to the closing price.

and McDonald (2013) find a negative association between filings time distance and two variables (i.e. upward revisions in the offer price and post-IPO return volatility).[65] Additionally, the empirical evidence of their analysis show that the greater the time distance between S-1 and 424 filings, the less are the IPO first-day returns. Similarly, Arnold et al. (2010) find that more days in registration imply lower first-day returns, and Hanley and Hoberg (2010) find that IPOs with more informative content in Form S-1 have lower offer price revisions and first-day returns. Putting everything together, it results that the IPO prospectus content may be more informative for those firms that take more time to issue their stocks. Hence, a greater time distance between S-1 and 424 filings is expected to imply a higher number of additional disclosures in the final IPO prospectus. Based upon these arguments, the hypothesis to be tested is:

H1b: Balance sheet disaggregation in final IPO prospectuses is positively associated with the number of days between S-1 and 424 filings.

Financial research suggests that the nature and extent of financial disclosure depends on the industry(ies) in which a firm operates (e.g. Sprouse, 1967; Buzby 1975; Cerbioni and Menini, 2011). Concerning voluntary disclosure, Cormier and Magnan (1999) evidence suggests that also industry type "contributes to explaining environmental disclosure".[66] Additionally, Hanley and Hoberg (2010) find that most of the standardized content of IPO prospectuses is similar to that of other IPOs operating in recent or similar industries. However, the directional effect of the industry classification on the level of disclosure is not unique. Industries are not similar to each other. It is reasonable to expect differences in the disclosure extent due to the distinct levels of regulations. For example, Ferris et al. (2013) find that the business equipment and service industry displays the greatest conservatism (i.e. the highest number of negative words in IPO prospectuses). The reason is that firms in this industry are more likely to be involved in shareholders' initiated litigation (Francis et al., 1994). Given these premises, it is reasonable to suppose that higher levels of regulations lead to a greater balance sheet information content. Therefore, the third hypothesis concerning additional disclosures determinants states:

H1c: Balance sheet disaggregation in final IPO prospectuses depends on the industry type.

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[65] The offer price is the price proposed by the investment bank underwriting the securities issue to make them available to the public. A security's offering price includes the underwriter's fee and any management fees applicable to the issue.

[66] Cormier and Magnan (1999) results suggest that key determinants of environmental disclosure are information costs and a firm's financial condition. Other determinants are firm size, the regulatory regime governing corporate disclosure, and industry.

The second hypothesis deals with the effect of financial disclosure on the market, in particular on first-day returns. IPO prospectuses are the first documents through which companies willing to quote on capital markets disclose business and financial information to the public. Hence, the prospectuses' content is critical for the success of the first shares sale. Some papers demonstrate that there is an association between the prospectus content and first-day and subsequent IPO returns. Analysing the tone of S-1 filings, Loughran and McDonald (2013) find that uncertain, weak modal, and negative word frequencies are significantly related to both first-day returns and post-IPO stock return volatility in a positive manner. Similarly, Arnold et al. (2010) develop some measures of relative ambiguity and find that the degree of ambiguity has a positive impact on initial and subsequent IPO returns. Using a conservatism measure, Ferris et al. (2013) find a link between conservatism and post-IPO stock returns. Based on these empirical findings, it is reasonable to expect that the higher the information content of balance sheet in IPO prospectuses, the lower are first-day returns. Given these premises, the second hypothesis to be tested is:

H2: Balance sheet disaggregation in final IPO prospectuses is negatively associated with first-day returns.

3.2 Sample, data collection and variable description

3.2.1 Sample selection and data collection

The initial sample is based on that of Brown et al. (2017). They collect all book-built US IPOs completed between 2003 and 2012. Following some data selection criteria, their final sample is of 696 IPOs. In line with this analysis purpose, the final prospectuses whose balance sheet does not state separately current and noncurrent assets and/or liabilities are eliminated. This selection results in a final sample of 683 IPOs.

Starting from Reg S-X requirements for the balance sheet presentation, a template balance sheet (see Appendix 1) is prepared, where the line items required by Reg S-X 5-02 are in **bold** font (e.g. Marketable securities; Property, Plant and Equipment; Deferred credits). These are considered "generic" line items, because they represent the balance sheet minimum information content. The additional disclosures are treated as "specific" line items and are marked by the *italics* font. The balance sheet items 'Accounts and notes receivable' and 'Accounts and notes payable' follow the disaggregation proposed by Reg S-X 5-02, they include four and seven specifications, respectively. Instead the balance sheet item 'Intangible assets' is disaggregated into 'Goodwill' and 'Other Specifications'. It is not worth to further disaggregate the remaining balance sheet items; to them

it is added a single specific line item denominated *Specs* to include all related specifications. For the analysis purpose, each generic line item and the related specifications are referred to as "category".

The category 'Redeemable preferred stock' is excluded from the analysis, because it is a mix of liabilities and shareholders' equity. Finally, the 'Shareholders' equity' section is excluded from the analysis, because it is reasonable to expect no significant insights from this section.

The balance sheet or consolidated balance sheet in each final prospectus is classified following the template balance sheet structure (Three data collection examples are available in Appendix 2). For each generic and specific line item one is written if the balance sheet item is disclosed in the IPO prospectus, otherwise zero. If there are more balance sheet items related to the same generic or specific line item, those are summed. The total amount of the section and of the generic and specific line items is calculated separately for each analysed subsection: Current Assets (*CA_TT; CA_GEN; CA_SPE*); Noncurrent Assets (*NA_TT; NA_GEN; NA_SPE*); Current Liabilities (*CL_TT; CL_GEN; CL_SPE*); Noncurrent Liabilities (*NL_TT; NL_GEN; NL_SPE*). In addition, Total Assets (TA) and Total Liabilities (TL) are calculated and then divided into total generic line items and total specific line items (i.e. *TA_TT; TA_GEN; TA_SPE; TL_TT; TL_GEN; TL_SPE*). Appendix 3 summarizes the balance sheet variables and all other measures outlined below.

3.2.2 Variable description

Three types of measures track the specific line items and their pervasiveness in the balance sheet: (i) a measure for the number of balance sheet categories with specific line items (*SPLI*); (ii) a ratio of the number of balance sheet categories with specific line items over the filled categories (*SPLIFC*); (iii) a ratio of the number of balance sheet categories with specific line items over total categories *(SPLITC)*. Each measure is calculated for Current Assets (*SPLI_CA; SPLIFC_CA; SPLITC_CA*), Noncurrent Assets (*SPLI_NA; SPLIFC_NA; SPLITC_NA*), Current Liabilities (*SPLI_CL; SPLIFC_CL; SPLITC_CL*), Noncurrent Liabilities (*SPLI_NL; SPLIFC_NL; SPLITC_NL*), and Total Assets and Liabilities (*SPLI_TT; SPLIFC_TT; SPLITC_TT*).

The indicator variable, *SPLI*, counts the number of categories containing at least a specification. The variable equals to zero when no category includes a specification. *SPLI_CA* and *SPLI_NA* can assume a value between zero and eight. The maximum value for *SPLI_CL* is two,

while the range for *SPLI_NL* is zero-five. The variable *SPLI_TT* is the sum of the previous four metrics.

The variable *SPLIFC* is the ratio (in terms of percentage value) between the number of categories containing specific line items and the number of categories containing at least one generic or specific line item. There is a metric for each balance sheet subsection, i.e. *SPLIFC_CA*, *SPLIFC_NA, SPLIFC_CL* and *SPLIFC_NL.* The variable *SPLIFC*_TT's numerator is the total number of categories containing specific line items and its denominator is the total number of categories containing at least one generic or specific line item.

Finally, the metric *SPLITC* captures the pervasiveness of specific line items on total balance sheet categories. This variable returns a percentage value. It is the ratio between the number of categories containing specific line items and the total categories. Each balance sheet section has its own metric (*SPLITC_CA*, *SPLITC_NA, SPLITC_CL* and *SPLITC_NL*). The variable *SPLITC_TT* measures the total number of categories containing specific line items over the total balance sheet categories.

3.3 Descriptive evidence

The descriptive analysis of the balance sheet disaggregation is performed in relation to three different variables: listing year, days between S-1 and 424 filings (*DAYS*), and industry classification. The listing year is the year in which the company went public. The second variable represents the number of calendar days between the initial filing date (S-1 filing) and 424 filing date. The industry classification is based on the Fama-French 10 industry classification scheme. Table 2 presents the sample distribution based on the listing year (2003-2012) and the industry classification (Fama-French 10 industry). The descriptive analysis comprises summary statistics; the calculation of the indicator variables (i.e. *SPLI; SPLIFC; SPLITC)*; and t-test.

Listing year

The listing year is used to analyse the temporal change, and to compare IPOs before the financial crisis (2003-2007) to those during and after the financial crisis (2008-2012).[67] Table 3, panel A and Figure 2 represent the mean of balance sheet items in the assets and liabilities subsections over the sample period. Concerning Current Assets subsection, *CA_TT* and *CA_SPE* show an increase in the mean value in the years 2008 and 2009, while the mean for *CA_GEN* is

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[67] All firms listed in 2007 are included in the pre-crisis subsample, even if the financial crisis started in US during the 2007 summer, because the number of IPOs from September 2007 to December 2007 is very small (i.e. 13 IPOs).

quite constant over time. The peaks are evident also in the Noncurrent Assets subsection, mostly for the generic and specific line items. In the Current Liabilities subsection, *CL_TT* and *CL_SPE* show the same trend, which goes up and down over time, while *CL_GEN* is quite flat. The Noncurrent Liabilities subsection shows a drop in 2008 (*NL_TT* and *NL_GEN*) and in 2009 (*NL_SPE*). After the changes in years 2008 and 2009, the mean in most subsections returns to the initial values.

Table 3, panel B illustrates the temporal change of the indicator variables' mean. Concerning the first variable (i.e. *SPLI*), the evidence shows peaks in 2008 (*SPLI_NA*) and 2009 (*SPLI_CA* and *SPLI_NL*), expect for *SPLI_CL*. Unlike the other four variables, the *SPLI_TT* trend varies going up and down in the middle years, but at the end of sample period it returns to initial values. The results of *SPLIFC* variable are slightly different. *SPLIFC_CL* and *SPLIFC_TT* have a flat trend. There is a significant increase in 2008 for *SPLIFC_NA* and lower one in 2009 for *SPLIFC_CA*. Instead, *SPLIFC_NL* shows a drop in 2009. Finally, the evidence related to *SPLITC* variable is also different. *SPLIFC_NL* and *SPLIFC_TT* are quite stable over the sample period. *SPLIFC_CL* has an upward trend with a peak in 2009. *SPLITC_CA* and *SPLIFC_NA* show a little increase in 2009 and in 2008, respectively.

The second part of the descriptive analysis related to the listing year concentrates on the comparison of pre-crisis IPOs (2002-2007) with post-crisis IPOs (2008-2012). The IPOs listed before the financial crisis are 437, while those listed during and after the financial crisis are 246. Table 4, panel A presents separate summary statistics for pre- and post-crisis IPOs. The first subsample discloses slightly more balance sheet items on average in each analysed subsection, expect for *NL_TT*. The variation is greater in pre-crisis IPOs, except for *CA_TT*. The differences in mean are not statistically significant, neither at 10% level. These results could suggest that the financial crisis have not pushed firms to disclose more balance sheet items to attract potential investors.

The statistics of the indicator variables are presented in Table 4, panel B. The results suggest that even if pre-crisis IPOs disclose more line items in total, in their balance sheet there are less specific line items (*SPLI* variable) than in the post-crisis subsample, except for *SPLI_NL* (see also Panel C). The *SPLIFC* statistics show that there are slightly more filled categories in the post-crisis IPOs including at least a specific line item. Concerning *SPLITC* variable, on average slightly more assets and liabilities categories contains at least a specific line item in the post-crisis subsample (except for *SPLITC_NL*). The differences in the mean values are statistically significant for most

of the indicator variables related to liabilities, i.e. *SPLI_CL, SPLI_NL, SPLIFC_NL, SPLITC_CL, SPLITC_NL*. It is also statistically significant the difference in mean for *SPLIFC_CA*. These results could suggest that even if the total number of balance sheet items is almost unchanged in the two subsamples, in the post-crisis period firms disclose more detailed information concerning their liabilities.

Days between S-1 and 424 filings (DAYS)

The sample presents a large variation in the number of days between the S-1 and 424 filings (Standard Deviation = 127). While on average firms are quoted after about 5 months (Mean = 153,9), the 5th percentile is 61 days compared to 416 days for IPOs at the 95th percentile. The median (111 days) is used to divide the sample into two groups: fast and slow IPOs. Fast IPOs subsample (N=350) includes the IPOs whose number of days separating the two filings is lower or equal to 111; slow IPOs subsample (N=333) contains the IPOs, which take more time to file Form 424.

Table 5, panel A illustrates separate summary statistics of fast and slow IPOs for assets and liabilities subsections, and panel C plots the mean of balance sheet items in IPO prospectuses. On average, IPOs that take more time to list disclose slightly more balance sheet items for each subsection. Slow IPOs have also a lower variation with respect to fast IPOs. However, the differences in mean are statistically significant only for *CA_TT* and *TA_TT*, at 5% and 10% level respectively. These results suggest that slow IPOs disclose more current assets items than fast IPOs.

The results of the indicator variables analysis are summarized in Table 5, panel B. The *SPLI* values indicate a slightly greater disclosure of specific line items for slow IPOs. Instead the variation in the two subsamples is very similar. The slow IPOs subsample presents a slightly higher percentage of filled categories including at least a specific line item (*SPLIFC*), except for *SPLIFC_CL*, and a slightly lower variation. Concerning the *SPLITC* variable, on average slightly more assets and liabilities categories contains at least a specific line item in the slow IPOs subsample. The variation is slightly lower for slow IPOs, except for *SPLITC_CL*. The differences between the mean values are statistically significant for *SPLI_CL, SPLI_TT, SPLIFC_TT, SPLITC_CL, SPLITC_TT*. These results suggest that firms taking more time to list disclose more detailed information concerning their current liabilities.

Empirical evidence suggests that IPOs with a longer time distance disclose more information in some balance sheet subsections than IPOs whose days between S-1 and 424 filings are lower than the median value. The positive association between the balance sheet disaggregation in IPO

prospectuses and *DAYS* variable may have two possible explanations. The first explanation is that the time may have an impact on the disclosure level. In other words, the higher number of registration days enable the companies to include more information in the final IPO prospectus, i.e. more balance sheet items, than in Form S-1. On the contrary, the information included in the initial prospectus may affect the time spent to file Form 424. The more items are included in S-1 filing, the greater the questions or concerns raised by SEC. Therefore, management needs many days to properly respond to SEC concerns about the IPO document.[68] In this study, it is not possible to disentangle the effect. However, to understand which could be the possible explanation, fifteen S-1 filings are analysed to explore whether the balance sheet content differs from that of the corresponding Form 424 (see Appendix 4). The evidence shows that the there is no significant differences between fast and slow IPOs. Therefore, it is more plausible the second explanation: the greater information content in Form S-1 implies higher *DAYS*.

Industry

The sample is clustered by the Fama-French 10 industry. Table 2 presents the sample distribution based on this industry classification. The IPOs are mostly concentrated in the following industries: 'Business Equipment' (193) and 'Healthcare, Medical Equipment and Drugs' (149). The second group in terms of number of IPOs per industry includes 'Manufacturing' (66); 'Wholesale, Retail, and Some Services' (64); 'Oil, Gas, and Coal Extraction and Products' (46). The smallest industries in terms of IPOs are 'Telephone and Television Transmission' (22), 'Utilities' (18), 'Consumer Nondurables' (18) and 'Consumer Durable' (11). Finally, the industry type 'Other' (Mines, Construction, Building, Transport, Hotels, Bus Service, Entertainment, Finance) contains the remaining 96 IPOs.

Table 6, panel A illustrates separate summary statistics related to assets and liabilities subsections per industry. The results present a meaningful variation in the mean values across the industries. The industry 'Oil, Gas, and Coal Extraction and Products' (hereinafter, OCG) stands out, because it shows the greatest mean values. There are two exceptions, *CA_TT* and *TA_TT*, but the values of these balance sheet variables are anyway high compared to those of the other industries (second and third greatest values among all industries, respectively). The industry 'Consumer Durables' dominates in the balance sheet variables *CA_TT* and *TA_TT*, and present the

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[68] Both Arnold et al. (2010) and Loughran and McDonald (2013) affirm that the number of calendar days between S-1 and 424 filings is also an investment risk signal to investors. The delay in issuing stock is likely due to questions or concerns raised by SEC that "have not been fully addressed in the prospectus implying that the issue may be riskier" (Arnold et al., 2010).

second highest values in *NA_TT* and *TL_TT*. The lowest values are mainly associated to the industry 'Healthcare, Medical Equipment and Drugs', except for *CL_TT*.

The results related to the indicator variables are less straightforward (Table 6, panel B). However, the greatest values are concentrated in two industries. First, the OCG industry dominates in eight out of fifteen indicator variables. In second place there is the industry 'Consumer Durables' with four indicator variables. The industry 'Wholesale, Retail and Some services' outperforms the other industry types in *SPLIFC_NL*. The smallest values instead are more scattered among the industries 'Business Equipment'; 'Consumer Nondurables'; 'Healthcare, Medical Equipment and Drugs'; 'Utilities'.

The empirical findings show that the extent of balance sheet disclosure depends on the industry in which a firm operates. The OCG industry displays mostly the greatest values in both balance sheet variables and indicator variables. The firms in this industry are generally subject to high levels of disclosure requirements.[69] Hence, the higher the levels of regulations, the greater is the balance sheet information content. Untabulated results concerning the differences in means support this reasoning: the differences are statistically significant for all balance sheet variables, expect for *CL_TT*. Concerning the eight indicator variables where OCG dominates in terms of mean, t-test shows that these differences are also statistically significant. The other industry presenting great values is 'Consumer Durables'. This industry is a great contributor to the US economy. This can explain the greater extent of disclosure in balance sheets of firms operating in 'Consumer Durables' industry. The differences in mean related to this industry are also significant for all balance sheet variables, expect for *CL_TT*. Regarding the indicator variables in which CD has the highest means, only in two of them this is difference is statistically significant (i.e. *SPLI_NA* and *SPLITC_NA*).

3.4 Empirical Analysis

The goal of this study is to determine whether financial disclosure in the balance sheets of final IPOs prospectuses affects first-day returns (hereinafter, FDRs). To investigate how the balance sheet content affects FDRs (H2), it is used the regression analysis where the dependent variable is FDRs. The control variables introduced in all models are *ASSETS*, *DAYS*, listing year

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[69] In The McLaughlin-Sherouse List - The 10 Most-Regulated Industries of 2014, 'Petroleum and coal products manufacturing' and 'Oil and gas extraction' are the first and the eighth industries, respectively. The article is available at: https://www.mercatus.org/publication/mclaughlin-sherouse-list-10-most-regulated-industries-2014.

and industry. *ASSETS* is the variable used by Brown et al. (2017) to represent total assets as of the prior fiscal period-end as gathered from the final prospectus. *DAYS* is the number of calendar days between the initial filing date (S-1 filing) and 424 filing date. The year fixed effects and the industry cluster by Fama-French-10 industry are included in each model. Because of some missing data in the control variables, the number of IPOs analysed in the regression models resolves into 668, instead of 683.

The regression analysis is performed using both balance sheet variables and indicator variables as independent variables. First, it is investigated whether the assets and liabilities subsections content have effects on FDRs. Second, the paper analyses the impact of assets and liabilities line items disaggregated into generic and specific. Third, it is investigated whether the indicator variables *SPLI_TT, SPLIFC_TT* and *SPLITC_TT* affect the FDRs. Finally, those variables disaggregated according to the subsections are used to analyse their effect on FDRs.

Balance sheet variables and first-day returns

The analysis begins with the examination of assets and liabilities line items effects and proceeds with the investigation of generic and specific line items impact. Table 7 reports the results of the assets and liabilities subsections content effects. In model 1, the financial disclosure is represented by the variables *TA_TT* and *TL_TT*, which indicate the total number of line items in the assets and liabilities sections, respectively. In model 2, the assets and liabilities information is disaggregated into current and noncurrent (*CA_TT* and *NA_TT; CL_TT* and *NL_TT*). Both analyses are helpful in assessing whether the content of the balance sheet influence the investors' valuation of the IPOs.

In model 1, the coefficient on *TA_TT* is small and negative, but significant at 10% level (-0.004; robust standard error = -0.002), while the coefficient on *TL_TT* is positive and not significant (0.002; robust standard error = -0.003). The results of model 2 are consistent with those of model 1. Both *CL_TT* and *NL_TT* coefficients are not statistically significant. Concerning the assets side, only *NA_TT* has a negative effect that is statistically significant at 1% level (coefficient = -0.009, robust standard error = -0.003).

Table 8 focuses on the distinction between generic and specific line items. The label 'generic' refers to the line items required by Reg S-X 5-02 for the balance sheet presentation, while the specific line items represent the additional disclosures provided by the companies. In model 1, the balance sheet content is represented by the *GENERIC* and *SPECIFIC* variables. Models 2 to 5 include the generic and specific variables for each subsection: Current Assets (model 2),

Noncurrent Assets (model 3), Current Liabilities (model 4), and Noncurrent Liabilities (model 5). Finally, model 6 includes all specific and generic line items variables divided by subsection (*CA_GEN, CA_SPE, NA_GEN, NA_SPE, CL_GEN, CL_SPE, NL_GEN* and *NL_SPE*).

In model 1, the coefficients of *GENERIC* and *SPECIFIC* are both negative and small, but not significant (*GENERIC*: coefficient = -0.001; robust standard error = 0.004; *SPECIFIC*: coefficient = -0.001; robust standard error = 0.001). Consistently with table 7, the coefficients in models 2, 4 and 5 are not significant. Concerning Noncurrent Assets (model 3), the coefficient on *NA_GEN* is negative and not significant (0.013; robust standard error = 0.008), while the *NA_SPE* has a negative effect on FDRs that is statistically significant at 5% level (coefficient = -0.006; robust standard error = 0.003). However, putting all assets and liabilities subsections together (model 6), neither variable is statistically significant.

The results across all models involving the balance sheet variables indicate that only the asset side negatively affects the initial returns with Noncurrent Assets disclosure. Therefore, the higher the number of line items in NA subsection, the lower are the first-day returns. After disaggregating NA into generic and specific line items, it appears that only *NA_SPE* is statistically significant. However, all marginal effects on FDRs are very small.

Indicator variables and first-day returns

To further investigate the role of specific line items in the balance sheets of final IPO prospectuses, three indicator variables is developed (i.e. *SPLI, SPLIFC* and *SPLITC).* *SPLI* measures the number of balance sheet categories with specific line items. The other two indicator variables are ratios of the number of balance sheet categories with specific line items over the filled categories *(SPLIFC)* and over total categories *(SPLITC)* respectively. These variables are used in the regression analysis to assess whether additional disclosures may affect the FDRs.

Table 9 presents the four regression models of the indicator variables on first-day returns. The first three models analyse the effect of *SPLI_TT* (model 1)*, SPLIFC_TT* (model 2) and *SPLITC_TT* (model 3) separately, while model 4 puts together these three indicator variables. None of the indicator variables has a statistically significant effect on FDRs. In addition, the variables have not the same directional effect in models 1 to 3 compared with the coefficients of model 4.

Table 10 presents the results for regressions that consider the indicator variables calculated for each balance sheet subsection. Model 1 includes the variables *SPLI_CA*, *SPLI_NA*, *SPLI_CL* and *SPLI_NL*; model 2 includes the variables *SPLIFC_CA*, *SPLIFC_NA*, *SPLIFC_CL* and *SPLIFC_NL*; model 3 includes the variables *SPLITC_CA*, *SPLITC_NA*, *SPLITC_CL* and

SPLITC_NL. Most of the results are not statistically significant, expect for *SPLI_NL* and *SPLITC_NL*. The coefficient on *SPLI_NL* is positive and significant at 10% level (0.021; robust standard error = 0.011), and *SPLITC_NL* has a positive effect that is statistically significant at 10% level (coefficient = 0.107; robust standard error = 0.056).

The results across all models involving the indicator variables indicate that they do not have a strong predictive power. Only two variables related to liabilities affect first-day returns in a positive way. In other words, an additional specific line item in the Noncurrent Liabilities subsection increases the initial IPO returns. Hence, an additional piece of information related to liabilities increases the investors' valuation of the firms.

4. Conclusions

Corporate disclosure is essential in capital markets. Besides disclosure regulatory requirements, companies can engage in voluntary communication. The balance sheet is one of the critical financial statements prescribed by the regulations. The rules require a minimum information content that firms can voluntarily enlarge. In particular, companies undertaking an IPO are likely to disclose additional information in IPO prospectuses. Indeed, Form S-1 and Form 424 are the first financial documents revealed to the public. The paper analysis is based on the sample of Brown et al. (2017), which includes the IPOs completed between 2003 and 2012. Each final IPO prospectus is classified following the rules provided by the Reg S-X 5-02. The balance sheet items are divided into generic and specific to distinguish the minimum content from the additional disclosures. In addition, some indicator variables are calculate to track the specific line items and their pervasiveness in the balance sheet (i.e. *SPLI; SPLIFC; SPLITC*).

The first evidence shows that the financial crisis had an impact on the number of line items disclosed: the level of balance sheet disclosure undergoes increases or decreases in correspondence of years 2008 and 2009. When comparing pre-crisis IPOs to post-crisis IPOs, it emerges that even if the total number of balance sheet items is almost unchanged in the two subsamples, in the post-crisis period firms disclose more detailed information concerning their liabilities. Analysing the fast and slow IPOs, empirical evidence suggests that firms taking more time to list present a greater level of detailed information concerning their current liabilities. Finally, in the analysis based on the industry classification, the 'Oil, Gas, and Coal Extraction and Products' industry mostly displays the greatest values in both balance sheet variables and indicator variables.

The insights from the regression analyses are that, among the balance sheet variables, only Noncurrent Assets affects first-day returns in a negative manner. Hence, the greater the number of line items in this subsection, the lower are FDRs. Concerning the regression models involving the indicator variables, empirical evidence suggests that they do not have a strong predictive power. Only *SPLI_NL* and *SPLIFC_NL* positively influence FDRs. Summarizing, an additional information regarding Noncurrent Assets reduces the difference between investors' evaluation and the offer price, i.e. FDRs. On the opposite, one more line item in the Noncurrent Liabilities subsection increases this gap, i.e. FDRs increase. Hence, investors assign a greater value to information on liabilities than to assets disclosures.

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Appendix 1

Template balance sheet

XXX Corp

Balance sheet

December 31, 20X6 and 20X5

Assets	December 31, 20X6	December 31, 20X5	
	(in million $)	(in million $)	
Current assets			
5-02.1: Cash and cash items	xxx	xxx	
Specs	xxx	xxx	Category
5-02.2: Marketable securities	xxx	xxx	
Specs	xxx	xxx	
5-02.3: Accounts and notes receivable	xxx	xxx	
1. Customers (trade)	xxx	xxx	
2. Related parties	xxx	xxx	
3. Underwriters, promoters, and employees (other than related parties);	xxx	xxx	
4. Others	xxx	xxx	
5-02.4: Allowances for doubtful accounts and notes receivable	xxx	xxx	
Specs	xxx	xxx	
5-02.5: Unearned income	xxx	xxx	
Specs	xxx	xxx	
5-02.6: Inventories	xxx	xxx	
Specs	xxx	xxx	
5-02.7: Prepaid expenses	xxx	xxx	
Specs	xxx	xxx	
5-02.8: Other current assets	xxx	xxx	
Specs	xxx	xxx	
5-02.9: Total current assets (*CA_TT*)	xxx	xxx	
CA_GEN	xxx	xxx	
CA_SPE	xxx	xxx	
5-02.10: Securities of related parties	xxx	xxx	
Specs	xxx	xxx	
5-02.11: Indebtedness of related parties	xxx	xxx	
Specs	xxx	xxx	
5-02.12: Other investments	xxx	xxx	
Specs	xxx	xxx	
5-02.13: Property, plant and equipment	xxx	xxx	
Specs	xxx	xxx	
Assets	December 31, 20X6	December 31, 20X5	

	(in million $)	(in million $)
5-02.14: Accumulated depreciation, depletion, and amortization of property, plant and equipment	xxx	xxx
Specs	xxx	xxx
5-02.15: Intangible assets	xxx	xxx
1. Goodwill	xxx	xxx
2. Other Specs	xxx	xxx
5-02.16: Accumulated depreciation and amortization of intangible assets	xxx	xxx
Specs	xxx	xxx
5-02.17: Other assets	xxx	xxx
Specs	xxx	xxx
Total noncurrent assets (*NA_TT*)	xxx	xxx
NA_GEN	xxx	xxx
NA_SPE	xxx	xxx
5-02.18: Total assets (*TA_TT*)	xxx	xxx
TA_GEN	xxx	xxx
TA_SPE	xxx	xxx

Liabilities	December 31, 20X6	December 31, 20X5
	(in million $)	(in million $)
Current liabilities		
5-02.19: Accounts and notes payable	xxx	xxx
(1) banks for borrowings;	xxx	xxx
(2) factors or other financial institutions for borrowings;	xxx	xxx
(3) holders of commercial paper;	xxx	xxx
(4) trade creditors;	xxx	xxx
(5) related parties;	xxx	xxx
(6) underwriters, promoters, and employees (other than related parties);	xxx	xxx
(7) others.	xxx	xxx
5-02.20: Other current liabilities	xxx	xxx
Specs	xxx	xxx
5-02,21 Total current liabilities (*CL_TT*)	xxx	xxx
CL_GEN	xxx	xxx
CL_SPE	xxx	xxx
5-02.22: Bonds, mortgages and other long-term debt including capitalized leases	xxx	xxx
Specs	xxx	xxx
5-02.23: Indebtedness to related parties—noncurrent	xxx	xxx
Specs	xxx	xxx

Liabilities	December 31, 20X6	December 31, 20X5
	(in million $)	(in million $)
5-02.24: Other liabilities	xxx	xxx
Specs	xxx	xxx
5-02.25: Commitments and contingent liabilities	xxx	xxx
Specs	xxx	xxx
5-02.26: Deferred credits	xxx	xxx
Specs	xxx	xxx
Total noncurrent liabilities (*NL_TT*)	xxx	xxx
NL_GEN	xxx	xxx
NL_SPE	xxx	xxx
Total liabilities (*TL_TT*)	xxx	xxx
TL_GEN	xxx	xxx
TL_SPE	xxx	xxx

Notes: Appendix 1 represents the template balance sheet used as basis to classify the balance sheet items in final IPO prospectuses. The line items required by Reg S-X 5-02 are considered "generic" items and are in bold font. The additional disclosures are treated as "specific" line items and are marked by the italics font. The balance sheet items 'Accounts and notes receivable' and 'Accounts and notes payable' follow the disaggregation proposed by Reg S-X 5-02. 'Intangible assets' is disaggregated in 'Goodwill' and 'Other Specifications'. The remaining items have only one specific line item denominated *Specs*. For the analysis purpose, each generic line item and the related specifications are referred to as "category".

Appendix 2

Examples of balance sheet items classification

The balance sheet items' classification is clarified using three examples. The examples are selected according to the level of disclosure content: low (ID n. 1207), medium (ID n. 1162), high (ID n. 1621). For each example, there are two tables. In the first table, it is reproduced the balance sheet in the IPO prospectus and for each line item it is assigned a category following Appendix 1. The second table reports the balance sheet content following the template balance sheet in Appendix 1.

ID n. 1207

Balance sheet (IPO prospectus)

	December 31, 2002	December 31, 2003	Assigned category
ASSETS	(in thousand $)	(in thousand $)	
Current assets:			
Cash and cash equivalents	779	246	*Cash and Cash items*
Short-term investments	161	1,491	*Marketable securities*
Other current assets	10	30	*Other current assets*
Total current assets	**950**	**1,767**	
Property and equipment, net	57	74	*Property, plant and equipment*
Other non-current assets	—	—	
Total assets	**1,007**	**1,841**	
LIABILITIES			
Current liabilities:			
Accounts payable	10	74	*Accounts and notes payable*
Accrued liabilities	27	84	*Accounts and notes payable, (4) trade creditors*
Total current liabilities	**37**	**158**	

ID n. 1207

'Classified' Balance sheet

ASSETS	Line items (number)
Cash and Cash items	1
Marketable securities	1
Other current assets	1
CA_TT	**3**
CA_GEN	3
CA_SPE	0
Property, plant and equipment	1
NA_TT	**1**
NA_GEN	1
NA_SPE	0
TA_TT	**4**
TA_GEN	4
TA_SPE	0

LIABILITIES	Line items (number)
Accounts and notes payable	1
(4) trade creditors	1
CL_TT	**2**
CL_GEN	1
CL_SPE	1
NL_TT	**0**
NL_GEN	0
NL_SPE	0
TL_TT	**2**
TL_GEN	1
TL_SPE	1

ID n. 1162

Balance sheet (IPO prospectus)

	December 29, 2002	December 28, 2003	Assigned category
ASSETS	(in thousand $)	(in thousand $)	
Current assets:			
Cash and cash equivalents	22,596	42,852	*Cash and cash items*
Accounts receivable, net of reserves of $3,764 in 2002 and $3,869 in 2003	57,497	64,571	*Accounts and notes receivable (1); Allowances for doubtful accounts and notes receivable (1)*
Inventories	21,832	19,480	*Inventories*
Notes receivable, net of reserves of $1,785 in 2002 and $291 in 2003	3,398	3,785	*Accounts and notes receivable (1); Allowances for doubtful accounts and notes receivable (1)*
Prepaid expenses and other	6,694	16,040	*Other current assets*
Advertising fund assets, restricted	28,231	30,544	*Other current assets; Specs*
Deferred income taxes	6,809	5,730	*Other current assets; Specs*
Total current assets	**147,057**	**183,002**	
Property, plant and equipment:			
Land and buildings	15,986	21,849	*Property, plant and equipment; Specs*
Leasehold and other improvements	57,029	61,433	*Property, plant and equipment; Specs*
Equipment	145,513	158,286	*Property, plant and equipment; Specs*
Construction in progress	5,727	6,133	*Property, plant and equipment; Specs*
Accumulated depreciation and amortization	103,708	120,634	*Accumulated depreciation, depletion, and amortization of property, plant and equipment*
Property, plant and equipment, net	120,547	127,067	*Property, plant and equipment*
Other assets:			
Investments in marketable securities, restricted	3,172	4,155	*Other investments*
Notes receivable, less current portion, net of reserves of $1,899 in 2002 and $1,840 in 2003	10,755	1,813	*Other current assets; Specs (2)*
Deferred financing costs, net of accumulated amortization of $22,436 in 2002 and $846 in 2003	18,264	18,847	*Intangible assets, Specs (1); Accumulated depreciation and amortization of intangible assets, Specs (1)*
Goodwill	23,232	23,432	*Intangible assets, Goodwill*
Capitalized software, net of accumulated amortization of $25,930 in 2002 and $26,936 in 2003	28,313	27,197	*Intangible assets, Specs (1); Accumulated depreciation and amortization of intangible assets, Specs (1)*
Other assets, net of accumulated amortization of $1,374 in 2002 and $2,087 in 2003	10,945	11,020	*Intangible assets, Specs (1); Accumulated depreciation and amortization of intangible assets, Specs (1)*
Deferred income taxes	60,390	52,042	*Other assets, Specs*
Total other assets	**155,071**	**138,506**	
Total assets	**422,675**	**448,575**	

	December 29, 2002	December 28, 2003	Assigned category
LIABILITIES	(in thousand $)	(in thousand $)	
Current liabilities:			
Current portion of long-term debt	2,843	18,572	*Accounts and notes payable, (1) banks for borrowings*
Accounts payable	46,131	53,388	*Accounts and notes payable*
Accrued compensation	26,723	25,315	*Accounts and notes payable; (6) underwriters, promoters, and employees (other than related parties);*
Accrued interest	12,864	17,217	*Accounts and notes payable; (4) trade creditors*
Insurance reserves	8,452	9,432	*Other current liabilities; Specs*
Advertising fund liabilities	28,231	30,544	*Other current liabilities; Specs*
Other accrued liabilities	32,006	29,795	*Accounts and notes payable; 7. others*
Total current liabilities	**157,250**	**184,263**	
Long-term liabilities:			
Long-term debt, less current portion	599,180	941,165	*Bonds, mortgages and other long-term debt including capitalized leases*
Insurance reserves	12,510	15,941	*Other liabilities; Specs*
Other accrued liabilities	29,090	25,169	*Other liabilities; Specs*
Total long-term liabilities	**640,780**	**982,275**	
Total liabilities	**798,030**	**1166,538**	

ID n. 1162

'Classified' Balance sheet

ASSETS	Line items (number)
Current assets:	
Cash and cash items	1
Accounts and notes receivable	2
Allowances for doubtful accounts and notes receivable	2
Inventories	1
Other current assets	1
Specs	2
CA_TT	**9**
CA_GEN	7
CA_SPE	2
Other investments	1
Property, plant and equipment	1
Specs	4

	Line items (number)
Accumulated depreciation, depletion, and amortization of property, plant and equipment	1
Intangible assets: *Goodwill*	1
Intangible assets: *Specs*	3
Accumulated depreciation and amortization of intangible assets: *Specs*	3
Other assets: *Specs*	3
NA_TT	**17**
NA_GEN	3
NA_SPE	14
TA_TT	**26**
TA_GEN	10
TA_SPE	16

LIABILITIES	Line items (number)
Accounts and notes payable	1
(1) banks for borrowings	1
(4) trade creditors	1
(6) underwriters, promoters, and employees (other than related parties);	1
(7) others	1
Other current liabilities: *Specs*	2
CL_TT	**7**
CL_GEN	1
CL_SPE	6
Bonds, mortgages and other long-term debt including capitalized leases	1
Other liabilities: *Specs*	2
NL_TT	**3**
NL_GEN	1
NL_SPE	2
TL_TT	**10**
TL_GEN	2
TL_SPE	8

ID n. 1621

Balance sheet (IPO prospectus)

	December 31, 2007	December 31, 2008	Assigned category
ASSETS	(in thousand $)	(in thousand $)	
Current assets:			
Cash and cash equivalents	7,351	56,483	*Cash and cash items*
Restricted cash	—	666	*Cash and cash items, Specs*
Accounts receivable, net of allowance for doubtful accounts of $6,016 and $18,246	14,630	28,946	*Accounts and notes receivable (1); Allowances for doubtful accounts and notes receivable (1)*
Inventories	194	288	*Inventories*
Loans receivable	277	—	*Accounts and notes receivable, (1) banks for borrowings*
Current portion of deferred income taxes	—	2,734	*Other current assets, Specs*
Prepaid expenses and other current assets	561	6,773	*Other current assets*
Total current assets	23,013	95,890	
Property and equipment, net	13,240	27,715	*Property, plant and equipment*
Goodwill	76	76	*Intangible assets, Goodwill*
Intangibles	1,821	1,821	*Intangible assets*
Deferred income taxes	—	2,366	*Other assets, Specs*
Other long term assets	907	1,378	*Other assets*
Total assets	39,057	129,246	
LIABILITIES			
Current liabilities:			
Accounts payable	2,721	4,705	*Accounts and notes payable*
Accrued liabilities	6,036	16,543	*Accounts and notes payable, (4) trade creditors;*
Deferred revenue	16,817	67,425	*Accounts and notes payable, (4) trade creditors;*
Other liabilities	75	40	*Other current liabilities*
Current portion of leases payable	133	142	*Accounts and notes payable, (3) holders of commercial paper*
Current maturities of notes payable	1,580	74	*Accounts and notes payable*
U.S. Governmental refundable loan funds	221	—	*Other current liabilities, Specs*
Total current liabilities	27,583	88,929	
Leases payable, less current maturities	415	308	*Bonds, mortgages and other long-term debt including capitalized leases*
Notes payable, less current portion	3,545	160	*Deferred credits, Specs*
Deferred tax liability	556	—	*Other liabilities, Specs*
Other long term liabilities	—	2,740	*Other liabilities*
Rent liability	2,045	3,938	*Other liabilities, Specs*
Total liabilities	34,144	96,075	

ID n. 1621

'Classified' Balance sheet

ASSETS	Line items (number)
Current assets:	
Cash and cash items	1
Specs	1
Accounts and notes receivable	1
(1) banks for borrowings	1
Allowances for doubtful accounts and notes receivable	1
Inventories	1
Other current assets	1
Specs	1
CA_TT	**8**
CA_GEN	5
CA_SPE	3
Property, plant and equipment	1
Intangible assets	1
Goodwill	1
Other assets	1
Specs	1
NA_TT	**5**
NA_GEN	3
NA_SPE	2
TA_TT	**13**
TA_GEN	8
TA_SPE	5

LIABILITIES	Line items (number)
Accounts and notes payable	2
(3) holders of commercial paper;	1
(4) trade creditors;	1
(7) others.	1
Other current liabilities	1
Specs	1
CL_TT	**7**
CL_GEN	3
CL_SPE	4

	Line items (number)
Bonds, mortgages and other long-term debt including capitalized leases	1
Other liabilities	1
Specs	2
Deferred credits: *Specs*	1
NL_TT	**5**
NL_GEN	2
NL_SPE	3
TL_TT	**12**
TL_GEN	5
TL_SPE	7

Appendix 3

Variable description

Balance sheet variables	
CA_TT	Total line items of Current Assets.
CA_GEN	Total generic line items of Current Assets.
CA_SPE	Total specific line items of Current Assets.
NA_TT	Total line items of Noncurrent Assets.
NA_GEN	Total generic line items of Noncurrent Assets.
NA_SPE	Total specific line items of Noncurrent Assets
TA_TT	Total line items of Total Assets.
TA_GEN	Total generic line items of Total Assets.
TA_SPE	Total specific line items of Total Assets.
CL_TT	Total line items of Current Liabilities.
CL_GEN	Total generic line items of Current Liabilities.
CL_SPE	Total specific line items of Current Liabilities.
NL_TT	Total line items of Noncurrent Liabilities.
NL_GEN	Total generic line items of Noncurrent Liabilities.
NL_SPE	Total specific line items of Noncurrent Liabilities.
TL_TT	Total line items of Total Liabilities.
TL_GEN	Total generic line items of Total Liabilities.
TL_SPE	Total specific line items of Total Liabilities.
GENERIC	Total generic line items in assets and liabilities sections.
SPECIFIC	Total specific line items in assets and liabilities sections.
Indicator variables	
SPLI_CA	The number of Current Assets categories with specific line items.
SPLI_NA	The number of Noncurrent Assets categories with specific line items.
SPLI_CL	The number of Current Liabilities categories with specific line items.
SPLI_NL	The number of Noncurrent Liabilities categories with specific line items.
SPLI_TT	The number of Total Assets and Total Liabilities categories with specific line items.
SPLIFC_CA	The ratio between the number of Current Assets categories containing specific line items and all Current Assets filled categories. It is measured as percentage value.
SPLIFC_NA	The ratio between the number of Noncurrent Assets categories containing specific line items and all Noncurrent Assets filled categories. It is measured as percentage value.
SPLIFC_CL	The ratio between the number of Current Liabilities categories containing specific line items and all Current Liabilities filled categories. It is measured as percentage value.
SPLIFC_NL	The ratio between the number of Noncurrent Liabilities categories containing specific line items and all Noncurrent Liabilities filled categories. It is measured as percentage value.

SPLIFC_TT	The ratio between Total Assets and Total Liabilities categories containing specific line items and all Total Assets and Total Liabilities filled categories. It is measured as percentage value.
SPLITC_CA	The ratio between the number of Current Assets categories containing specific line items and all Current Assets categories. It is measured as percentage value.
SPLITC_NA	The ratio between the number of Noncurrent Assets categories containing specific line items and all Noncurrent Assets categories. It is measured as percentage value.
SPLITC_CL	The ratio between the number of Current Liabilities categories containing specific line items and all Current Liabilities categories. It is measured as percentage value.
SPLITC_NL	The ratio between the number of Noncurrent Liabilities categories containing specific line items and all Noncurrent Liabilities categories. It is measured as percentage value.
SPLITC_TT	The ratio between Total Assets and Total Liabilities categories containing specific line items and all Total Assets and Total Liabilities categories. It is measured as percentage value.
Control variables	
DAYS	The number of calendar days between the filing of the initial IPO prospectus on SEC EDGAR (Form S-1) and the final prospectus (Form 424).
ASSETS	Total assets as of the prior fiscal period-end as gathered from the final prospectus.

Form S-1 and Form 424 comparison: a 15 filings subsample

The fifteen Form S-1 are selected according to the following criteria:

  − 5 filings among the IPOs with the lowest number of *DAYS* (Fast IPOs);

  − 5 filings among the IPOs around median *DAYS* (Median IPOs);

  − 5 filings among the IPOs with the highest number of *DAYS* (Slow IPOs).

The analysis results are summarized in tabular format. In both 'fast IPOs' and 'median IPOs' groups, three out of five firms have added in total a line item in their final IPO prospectus with respect to Form S-1. Concerning the 'slow IPOs' group, one firm has added a line item, another one has decreased the total number of line items by one unit, and the remaining firms have not changed their balance sheet content compared to the preliminary prospectus.

ID		Differences (YES or NO)	Difference type and sign				
			CA	NA	CL	NL	TT
Fast IPOs	1063	YES		+1			**+1**
	1180	NO					0
	1191	NO					0
	1221	YES			+1		**+1**
	1583	YES	+1				**+1**
Median IPOs	1127	NO					0
	1410	NO					0
	1556	YES			+1		**+1**
	1707	YES	+1	+1		-1	**+1**
	1718	YES			+1		**+1**
Slow IPOs	1074	YES	-1	-1	+1		**-1**
	1120	NO					0
	1547	NO					0
	1599	NO					0
	1620	YES	+1				**+1**

Figure 1
The jurisdictions requiring IFRS standards for domestic public companies

Notes: This figure presents the 126 jurisdictions, which require IFRS standards for all or most domestic publicly accountable entities, including listed companies and financial institutions, in their capital markets.

Figure 2
Assets and liabilities sections' items per year
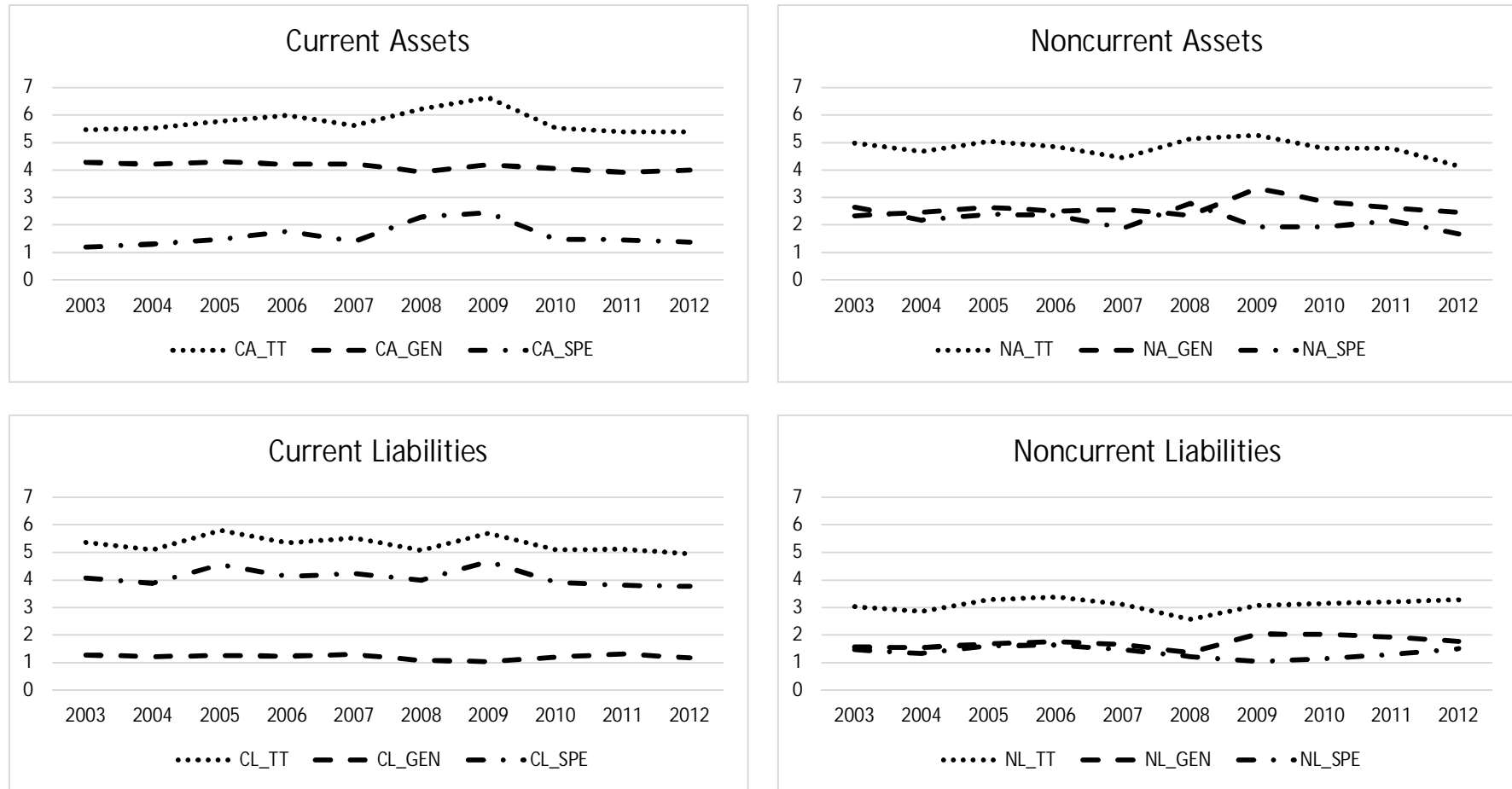
Notes: This figure presents the temporal change of balance sheet items mean in the assets and liabilities sections. For each subsection it is depicted the trend over the sample period (2003-2012) using total section, total generic line items and total specific line items. All variables are defined in Appendix 3.

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Table 1

Financial Reporting in the United States and in the European Union: main developments

Year	
Panel A: United States	
1933	Securities Act
1934	Securities Exchange Act
2000	Regulation Fair Disclosure
2002	Sarbanes-Oxley Act
Panel B: European Union	
1978	Fourth Directive (annual accounts of companies with limited liability)
1983	Seventh Directive (consolidated accounts of companies with limited liability)
2001	Fair Value Directive (requiring/allowing for fair value measurement of specific balance sheet items)
2002	IAS Regulation (application of IFRS from 2005 onwards)
2003	Modernization Directive (reflecting IFRS developments in the Fourth and Seventh Directive)
2004	Transparency Directive (TD)
2005	IFRS mandatory for listed companies in European Union
2008	Regulation (EC) No 1126/2008 (adopting certain international accounting standards in accordance with Regulation (EC) No 1606/2002)
Jun 2013	Accounting Directive
Oct 2013	Transparency Directive Amending Directive (TDAD)

Notes: This table presents the main developments of financial reporting regulations in the United States and in the European Union.

Table 2

Year and industry distribution in full sample

Number of firms		Number	Percent
Listing year	2003	36	5.27%
	2004	107	15.67%
	2005	86	12.59%
	2006	102	14.93%
	2007	106	15.52%
	2008	14	2.05%
	2009	27	3.95%
	2010	59	8.64%
	2011	62	9.08%
	2012	84	12.30%
Industry	Business Equipment	193	28.26%
	Consumer Durables	11	1.61%
	Consumer Nondurables	18	2.64%
	Healthcare, Medical Equipment and Drugs	149	21.82%
	Manufacturing	66	9.66%
	Oil, Gas and Coal extraction and products	46	6.73%
	Other	96	14.06%
	Telephone and Television Transmission	22	3.22%
	Utilities	18	2.64%
	Wholesale, Retail and Some services	64	9.37%

Notes: This table represents the sample distribution based on the listing year (2003-2012) and industry classification (Fama-French 10 industry). The total sample consist of 683 US IPOs completed from 2003 to 2012.

Table 3
Summary statistics and indicator variables of IPOs per year

Variable		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Panel A: Summary statistics (Mean)											
CA_TT	(18)	5.47	5.51	5.78	5.99	5.62	6.21	6.63	5.53	5.39	5.38
CA_GEN	(8)	4.28	4.21	4.30	4.22	4.23	3.93	4.19	4.05	3.92	4.00
CA_SPE	(10)	1.19	1.31	1.48	1.77	1.40	2.29	2.44	1.47	1.47	1.38
NA_TT	(17)	4.97	4.66	5.03	4.85	4.44	5.14	5.26	4.78	4.79	4.14
NA_GEN	(8)	2.33	2.48	2.65	2.50	2.56	2.36	3.33	2.85	2.63	2.46
NA_SPE	(9)	2.64	2.19	2.38	2.35	1.89	2.79	1.93	1.93	2.16	1.68
TA_TT	(35)	10.44	10.18	10.81	10.84	10.07	11.36	11.89	10.31	10.18	9.52
TA_GEN	(16)	6.61	6.68	6.95	6.72	6.78	6.29	7.52	6.90	6.55	6.46
TA_SPE	(19)	3.83	3.50	3.86	4.13	3.28	5.07	4.37	3.41	3.63	3.06
CL_TT	(10)	5.36	5.10	5.80	5.35	5.53	5.07	5.70	5.10	5.11	4.95
CL_GEN	(2)	1.28	1.21	1.24	1.23	1.29	1.07	1.04	1.19	1.31	1.18
CL_SPE	(8)	4.08	3.89	4.56	4.13	4.24	4.00	4.67	3.92	3.81	3.77
NL_TT	(10)	3.03	2.86	3.28	3.38	3.11	2.57	3.07	3.15	3.21	3.27
NL_GEN	(5)	1.56	1.53	1.67	1.75	1.65	1.36	2.04	2.02	1.92	1.77
NL_SPE	(5)	1.47	1.33	1.60	1.64	1.46	1.21	1.04	1.14	1.29	1.50
TL_TT	(20)	8.39	7.96	9.08	8.74	8.64	7.64	8.78	8.25	8.32	8.23
TL_GEN	(7)	2.83	2.75	2.92	2.97	2.94	2.43	3.07	3.20	3.23	2.95
TL_SPE	(13)	5.56	5.21	6.16	5.76	5.70	5.21	5.70	5.05	5.10	5.27

Table 3, continued from previous page

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Panel B: Indicator variables										
SPLI										
SPLI_CA (8)	0.97	1.11	1.25	1.38	1.15	1.43	1.81	1.29	1.13	1.12
SPLI_NA (8)	1.36	1.38	1.50	1.44	1.22	1.86	1.59	1.34	1.42	1.20
SPLI_CL (2)	1.17	1.27	1.33	1.29	1.39	1.36	1.56	1.31	1.46	1.39
SPLI_NL (5)	0.97	0.93	0.96	1.05	0.95	0.71	0.70	0.73	0.83	0.93
SPLI_TT (23)	4.47	4.69	5.02	5.17	4.71	5.36	5.67	4.66	4.85	4.65
SPLIFC										
SPLIFC_CA	20.32%	25.71%	28.07%	30.07%	26.28%	32.26%	41.73%	29.86%	29.71%	27.30%
SPLIFC_NA	41.57%	43.13%	45.47%	46.09%	40.38%	62.26%	49.01%	42.94%	47.76%	41.71%
SPLIFC_CL	88.89%	93.46%	93.81%	93.63%	93.40%	92.86%	98.15%	94.07%	93.27%	95.95%
SPLIFC_NL	44.44%	50.16%	46.70%	46.57%	45.28%	44.05%	31.79%	36.58%	41.99%	48.09%
SPLIFC_TT	40.19%	43.89%	44.75%	45.57%	43.16%	50.55%	49.19%	42.81%	45.32%	45.17%
SPLITC	12.15%	13.90%	15.58%	17.28%	14.39%	17.86%	22.69%	16.10%	14.18%	14.02%
SPLITC_CA	17.01%	17.29%	18.80%	18.01%	15.21%	23.21%	19.91%	16.74%	17.79%	15.03%
SPLITC_NA	58.33%	63.55%	66.64%	64.71%	69.34%	67.86%	77.78%	65.25%	73.08%	69.59%
SPLITC_CL	19.44%	18.50%	19.23%	20.98%	19.06%	14.29%	14.07%	14.58%	16.54%	18.65%
SPLITC_NL	19.44%	20.40%	21.82%	22.46%	20.47%	23.29%	24.64%	20.27%	21.07%	20.21%
SPLITC_TT	20.32%	25.71%	28.07%	30.07%	26.28%	32.26%	41.73%	29.86%	29.71%	27.30%

Notes: This table reports the mean values for IPO firms per year. The total sample consist of 683 US IPOs completed from 2003 to 2012. Panel A illustrates the mean of balance sheet items in the assets and liabilities sections. For each subsection, the mean values of total section, total generic line items and total specific line items are indicated. The value in parenthesis indicates the maximum number of balance sheet items per section according to the 'Template balance sheet' in Appendix 1. Panel B presents the mean of the indicator variables (*SPLI, SPLIFC and SPLITC*). All variables are defined in Appendix 3.

Table 4

Summary statistics and indicator variables of pre- and post-crisis IPOs

Variable	IPOs 2002-2007 (N=437)					IPOs 2008-2012 (N=246)					Test of differences	
	Mean	Std. Dev.	25th	Median	75th	Mean	Std. Dev.	25th	Median	75th	Differences in mean	t-statistic
Panel A: Summary statistics												
CA_TT (18)	5.70	1.67	5.00	6.00	7.00	5.60	1.63	4.25	6.00	7.00	0.1	(-0.751)
NA_TT (17)	4.75	2.56	3.00	4.00	6.00	4.64	1.95	3.00	5.00	5.75	0.11	(-0.658)
TA_TT (35)	10.45	3.49	8.00	10.00	12.00	10.24	2.98	8.00	10.00	12.00	0.21	(-0.653)
CL_TT (10)	5.42	1.96	4.00	5.00	6.00	5.12	1.63	4.00	5.00	6.00	0.3	(-2.185)
NL_TT (10)	3.14	1.59	2.00	3.00	4.00	3.17	1.43	2.00	3.00	4.00	-0.03	(-0.228)
TL_TT (20)	8.56	2.96	7.00	9.00	10.00	8.28	2.49	7.00	8.00	10.00	0.28	(-1.307)
Panel B: Indicator Variables												
SPLI												
SPLI_CA (8)	1.20	0.93	0.00	1.00	2.00	1.28	0.93	1.00	1.00	2.00	-0.08	(-1.184)
SPLI_NA (8)	1.38	0.97	1.00	1.00	2.00	1.39	0.84	1.00	1.00	2.00	-0.01	(-0.268)
SPLI_CL (2)	1.31	0.50	1.00	1.00	2.00	1.39	0.51	1.00	1.00	2.00	-0.08	(-1.974)**
SPLI_NL (5)	0.97	0.68	1.00	1.00	1.00	0.84	0.60	0.00	1.00	1.00	0.13	(-2.599)***
SPLI_TT (23)	4.86	1.96	3.00	5.00	6.00	4.91	1.82	4.00	5.00	6.00	-0.05	(-0.205)
SPLIFC												
SPLIFC_CA	26.77%	21.21%	0.00%	25.00%	40.00%	30.92%	23.13%	20.00%	25.00%	50.00%	-4.15%	(-2.321)**
SPLIFC_NA	43.41%	26.05%	33.33%	50.00%	66.67%	45.90%	24.73%	33.33%	50.00%	66.67%	-2.49%	(-1.24)
SPLIFC_CL	93.59%	18.98%	100%	100%	100%	94.51%	16.91%	100%	100%	100%	-0.92%	(-0.652)
SPLIFC_NL	46.72%	32.19%	33.33%	50.00%	66.67%	42.38%	32.08%	0.00%	50.00%	50.00%	4.34%	(-1.696)*
SPLIFC_TT	43.94%	14.97%	33.33%	44.44%	54.55%	45.71%	15.05%	36.36%	45.45%	55.56%	-1.77%	(-1.494)
SPLITC												
SPLITC_CA	14.96%	11.62%	0.00%	12.50%	25.00%	16.06%	11.63%	12.50%	12.50%	25.00%	-1.10%	(-1.184)
SPLITC_NA	17.19%	12.10%	12.50%	12.50%	25.00%	17.43%	10.56%	12.50%	12.50%	25.00%	-0.24%	(-0.268)
SPLITC_CL	65.56%	24.85%	50.00%	50.00%	100%	69.51%	25.26%	50.00%	50.00%	100%	-3.95%	(-1.974)**
SPLITC_NL	19.45%	13.67%	20.00%	20.00%	20.00%	16.83%	12.04%	0.00%	20.00%	20.00%	2.62%	(-2.599)***
SPLITC_TT	21.11%	8.54%	13.04%	21.74%	26.09%	21.35%	7.90%	17.39%	21.74%	26.09%	-0.24%	(-0.367)

Panel C: Plot of *SPLI* variable mean for pre- and post-crisis IPOs
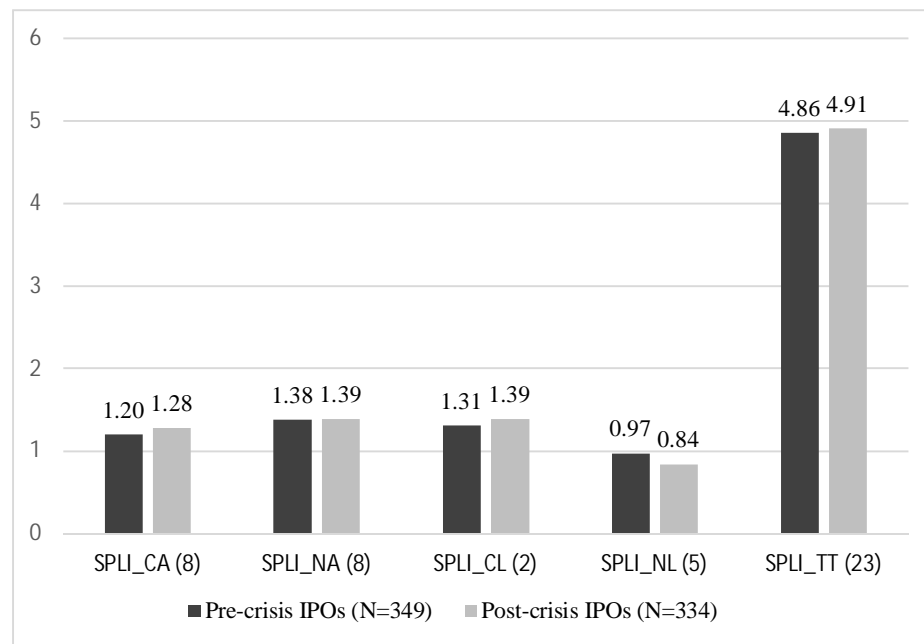
Notes: This table reports separate summary statistics for pre-crisis IPOs (2003 and 2007) and post-crisis IPOs (2008-2012). The total sample consist of 683 US IPOs completed from 2003 to2012. Panel A presents the summary statistics of balance sheet items in the assets and liabilities sections. The value in parenthesis indicates the maximum number of balance sheet items per section according to the 'Template balance sheet' in Appendix 1. Panel B illustrates the mean of the indicator variables (*SPLI, SPLIFC and SPLITC*). Panel C plots *SPLI* variable mean for pre- and post-crisis IPOs (in parenthesis the maximum number of categories). All variables are defined in Appendix 3. The table reports in parentheses the t-statistics for tests of differences in the means across the two subsamples. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 5

Summary statistic and indicator variables of fast and slow IPOs

	Fast IPOs 2002-2007 (N=350)					IPOs 2008-2012 (N=333)					Test of differences	
Variable	Mean	Std. Dev.	25th	Median	75th	Mean	Std. Dev.	25th	Median	75th	Differences in mean	t-statistic
Panel A: Summary statistics												
CA_TT (18)	5.54	1.72	4	6	7	5.8	1.59	5	6	7	-0.26	(-2.070)**
NA_TT (17)	4.63	2.56	3	4	6	4.8	2.12	3	4	6	-0.17	(-0.981)
TA_TT (35)	10.16	3.55	8	10	12	10.6	3.04	9	10	12	-0.44	(-1.732)*
CL_TT (10)	5.26	1.91	4	5	6	5.37	1.79	4	5	6	-0.11	(-0.731)
NL_TT (10)	3.06	1.56	2	3	4	3.24	1.51	2	3	4	-0.18	(-1.511)
TL_TT (20)	8.33	2.96	6	8	10	8.61	2.63	7	8	10	-0.28	(-1.313)
Panel B: Indicator Variables												
SPLI												
SPLI_CA (8)	1.18	0.96	0	1	2	1.28	0.9	1	1	2	-0.1	(-1.480)
SPLI_NA (8)	1.36	0.97	1	1	2	1.41	0.87	1	1	2	-0.05	(-0.726)
SPLI_CL (2)	1.3	0.49	1	1	2	1.38	0.5	1	1	2	-0.08	(-2.126)**
SPLI_NL (5)	0.89	0.64	0	1	1	0.96	0.67	1	1	1	-0.07	(-1.497)
SPLI_TT (23)	4.73	2.03	3	5	6	5.04	1.77	4	5	6	-0.31	(-2.154)**
SPLIFC												
SPLIFC_CA	27.12%	22.41%	-4.15%	-4.15%	40.00%	29.43%	21.52%	20.00%	25.00%	50.00%	-2.31%	(-1.351)
SPLIFC_NA	43.28%	26.25%	-2.49%	-2.49%	66.67%	45.35%	24.89%	33.33%	50.00%	66.67%	-2.07%	(-1.041)
SPLIFC_CL	93.97%	18.73%	-0.92%	-0.92%	100%	93.84%	17.77%	100%	100%	100%	0.13%	(-0.112)
SPLIFC_NL	43.87%	32.41%	4.34%	4.34%	50.00%	46.67%	31.95%	33.33%	50.00%	50.00%	-2.80%	(-1.201)
SPLIFC_TT	43.68%	15.77%	-1.77%	-1.77%	54.55%	45.52%	13.56%	36.36%	45.45%	54.55%	-1.84%	(-1.712)*
SPLITC												
SPLITC_CA	14.73%	11.99%	-1.10%	-1.10%	25.00%	16.03%	11.22%	12.50%	12.50%	25.00%	-1.30%	(-1.480)
SPLITC_NA	16.95%	12.16%	-0.24%	-0.24%	25.00%	17.61%	10.90%	12.50%	12.50%	25.00%	-0.66%	(-0.726)
SPLITC_CL	65.09%	24.75%	-3.95%	-3.95%	100%	69.07%	25.23%	50.00%	50.00%	100%	-3.98%	(-2.126)**
SPLITC_NL	17.82%	12.88%	2.62%	2.62%	20.00%	19.28%	13.42%	20.00%	20.00%	20.00%	-1.46%	(-1.497)
SPLITC_TT	20.55%	8.82%	-0.24%	-0.24%	26.09%	21.90%	7.69%	17.39%	21.74%	26.09%	-1.35%	(-2.154)**

Panel C: Plot of assets and liabilities sections mean for fast and slow IPOs

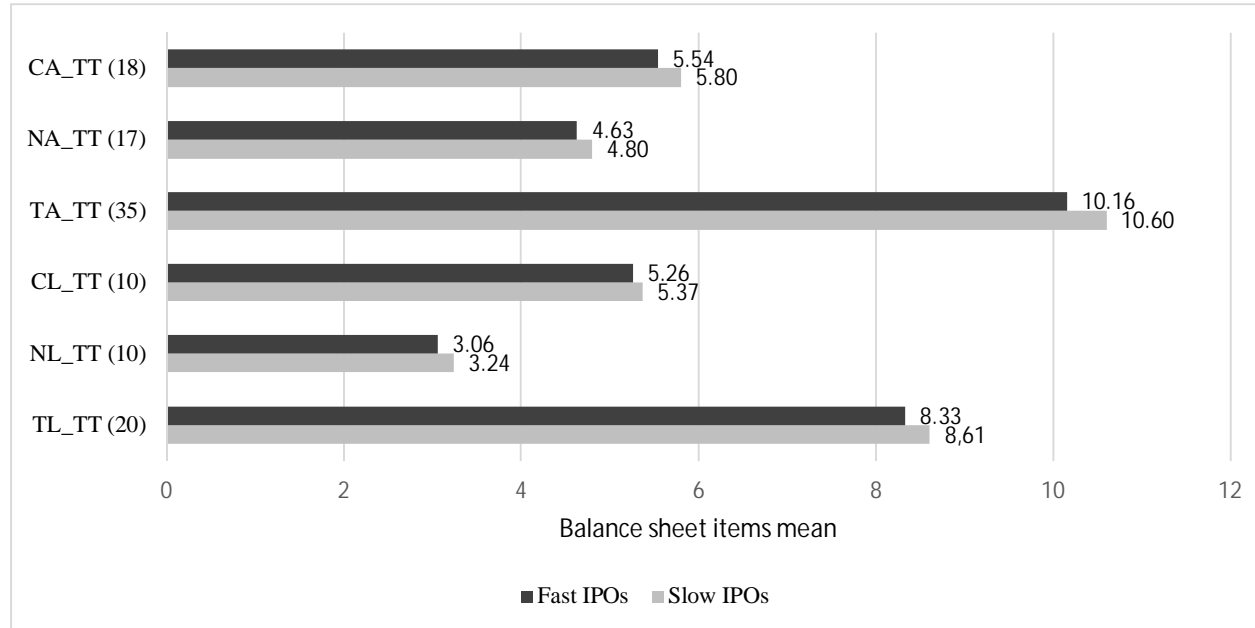Notes: This table reports separate summary statistics for fast IPOs (2003 and 2007) and slow IPOs (2008-2012). The total sample consist of 683 US IPOs completed from 2003 to 2012. Panel A presents the summary statistics of balance sheet items in the assets and liabilities sections. The value in parenthesis indicates the maximum number of balance sheet items per section according to the 'Template balance sheet' in Appendix 1. Panel B illustrates the mean of the indicator variables (*SPLI, SPLIFC and SPLITC*). Panel C plots the mean of balance sheet items in the assets and liabilities sections for fast and slow IPOs. All variables are defined in Appendix 3. The table reports in parentheses the t-statistics for tests of differences in the means across the two subsamples. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 6

Summary statistics and indicator variables of IPOs per industry

	Business Equipment	Consumer Durables	Consumer Nondurables	Healthcare, Medical Equipment and Drugs	Manufacturing	Oil, Gas and Coal extraction and products	Other	Telephone and Television Transmission	Utilities	Wholesale, Retail and Some services
Variable										
Panel A: Summary statistics (Mean)										
CA_TT (18)	5.63	6.45	5.72	4.91	6.36	6.17	5.98	5.88	5.39	5.83
NA_TT (17)	4.16	5.91	5.00	3.96	5.24	5.93	5.38	5.60	4.67	5.06
TA_TT (35)	9.78	12.36	10.72	8.87	11.61	12.11	11.35	11.44	10.06	10.89
CL_TT (10)	5.42	5.45	5.00	5.03	5.24	5.70	5.60	5.68	4.50	5.17
NL_TT (10)	2.85	3.82	3.22	2.70	3.53	3.83	3.41	3.38	3.50	3.36
TL_TT (20)	8.27	9.27	8.22	7.73	8.77	9.52	9.01	9.04	8.00	8.53

	Business Equipment	Consumer Durables	Consumer Nondurables	Healthcare, Medical Equipment and Drugs	Manufacturing	Oil, Gas and Coal extraction and products	Other	Telephone and Television Transmission	Utilities	Wholesale, Retail and Some services
Panel B: Indicator Variables, continued from previous page										
SPLI										
SPLI_CA (8)	1.10	1.27	1.00	0.93	1.52	1.74	1.50	1.38	1.44	1.25
SPLI_NA (8)	1.17	1.82	1.44	1.13	1.67	1.72	1.78	1.76	0.89	1.48
SPLI_CL (2)	1.31	1.36	1.17	1.22	1.42	1.72	1.44	1.46	1.28	1.25
SPLI_NL (5)	0.78	1.09	1.00	0.90	1.02	0.98	0.99	0.99	1.06	1.11
SPLI_TT (23)	4.36	5.55	4.61	4.18	5.62	6.15	5.71	5.56	4.67	5.09
SPLIFC										
SPLIFC_CA	0.26	0.23	0.21	0.23	0.32	0.42	0.34	0.32	0.37	0.27
SPLIFC_NA	0.40	0.50	0.44	0.39	0.52	0.50	0.53	0.52	0.24	0.46
SPLIFC_CL	0.95	1.00	0.97	0.96	0.94	0.93	0.93	0.94	0.75	0.91
SPLIFC_NL	0.38	0.53	0.52	0.45	0.47	0.47	0.48	0.47	0.48	0.55
SPLIFC_TT	0.41	0.43	0.41	0.42	0.48	0.53	0.51	0.49	0.41	0.46
SPLITC										
SPLITC_CA	0.14	0.16	0.13	0.12	0.19	0.22	0.19	0.17	0.18	0.16
SPLITC_NA	0.15	0.23	0.18	0.14	0.21	0.21	0.22	0.22	0.11	0.19
SPLITC_CL	0.66	0.68	0.58	0.61	0.71	0.86	0.72	0.73	0.64	0.63
SPLITC_NL	0.16	0.22	0.20	0.18	0.20	0.20	0.20	0.20	0.21	0.22
SPLITC_TT	0.19	0.24	0.20	0.18	0.24	0.27	0.25	0.24	0.20	0.22

Notes: This table reports summary statistics of IPOs per industry (Fama-French 10 industry). The total sample consist of 683 US IPOs completed from 2003 to2012. Panel A presents the mean of balance sheet items in the assets and liabilities sections. The value in parenthesis indicates the maximum number of balance sheet items per section according to the 'Template balance sheet' in Appendix 1. Panel B illustrates the mean of the indicator variables (*SPLI, SPLIFC and SPLITC*). All variables are defined in Appendix 3.

Table 7

Balance sheet variables and first-day returns

Variables	Dependent variable: First-day returns	
	Model 1	Model 2
TA_TT	-0.004	
	(-0.002)*	
CA_TT		0.006
		(-0.005)
NA_TT		-0.009
		(-0.003)***
TL_TT	0.002	
	(-0.003)	
CL_TT		0.002
		(-0.004)
NL_TT		0.000
		(0.005)
Control variables	Included	Included
ASSETS	Yes	Yes
DAYS	Yes	Yes
Year fixed effect	Yes	Yes
Industry cluster	Yes	Yes
No. of observations	668	668
Adjusted R^2	0.11	0.12

Notes: This table presents regression models of assets and liabilities variables on IPO first-day returns. Model 1 presents the effects of Total Assets and Total Liabilities, while in model 2 the assets and liabilities data are disaggregated into current and noncurrent. All variables are defined in Appendix 3. The coefficients on the control variables are not tabulated. The robust standard error is reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 8

The effects of generic and specific variables on IPO first-day returns

Variables	Dependent variable: First-day returns					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
GENERIC	-0.001					
	(0.004)					
SPECIFIC	-0.001					
	(0.001)					
CA_GEN		0.008				0.012
		(0.007)				(0.007)
CA_SPE		0.000				0.001
		(0.005)				(0.006)
NA_GEN			-0.013			-0.016
			(0.008)			(0.009)*
NA_SPE			-0.006			-0.008
			(0.003)**			(0.003)**
CL_GEN				-0.001		-0.002
				(0.012)		(0.012)
CL_SPE				0.002		0.003
				(0.003)		(0.004)
NL_GEN					-0.003	-0.004
					(0.009)	(0.009)
NL_SPE					0.001	0.004
					(0.005)	(0.006)
Control variables	Included	Included	Included	Included	Included	Included
ASSETS	Yes	Yes	Yes	Yes	Yes	Yes
DAYS	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Industry cluster	Yes	Yes	Yes	Yes	Yes	Yes
No. of observations	668	668	668	668	668	668
Adjusted R2	0.11	0.11	0.12	0.11	0.11	0.12

Notes: This table presents regression models of generic and specific variables on IPO first-day returns. All variables are defined in Appendix 3. The coefficients on the control variables are not tabulated. The robust standard error is reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 9

Indicator variables and first-day returns

Variables	Dependent variable: First-day returns			
	Model 1	Model 2	Model 3	Model 4
SPLI_TT	0.000			-0.034
	(0.004)			(0.123)
SPLIFC_TT		0.004		0.035
		(0.050)		(0.118)
SPLITC_TT			-0.005	0.725
			(0.092)	(2.814)
Control variables	Included	Included	Included	Included
ASSETS	Yes	Yes	Yes	Yes
DAYS	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes
Industry cluster	Yes	Yes	Yes	Yes
No. of observations	668	668	668	668
Adjusted R2	0.11	0.11	0.11	0.11

Notes: This table presents the regression models of indicator variables (i.e. *SPLI, SPLIFC* and *SPLITC*) on first-day returns. All variables are defined in Appendix 3. The coefficients on the control variables are not tabulated. The robust standard error is reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 10

Disaggregated indicator variables and first-day returns

Variables	Dependent variable: First-day returns		
	Model 1	Model 2	Model 3
SPLI_CA	-0.003		
	(0.008)		
SPLI_NA	-0.007		
	(0.008)		
SPLI_CL	-0.010		
	(0.015)		
SPLI_NL	0.021		
	(0.011)*		
SPLIFC_CA		-0.032	
		(0.035)	
SPLIFC_NA		0.016	
		(0.029)	
SPLIFC_CL		-0.022	
		(0.040)	
SPLIFC_NL		0.039	
		(0.027)	
SPLITC_CA			-0.022
			(0.067)
SPLITC_NA			-0.053
			(0.063)
SPLITC_CL			-0.020
			(0.030)
SPLITC_NL			0.107
			(0.056)*
Control variables	Included	Included	Included
ASSETS	Yes	Yes	Yes
DAYS	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Industry cluster	Yes	Yes	Yes
No. of observations	668	668	668
Adjusted R2	0.11	0.11	0.11

Notes: This table presents regression models of the disaggregated indicator variables on first-day returns. The indicator variables are those calculated for each assets and liabilities subsection. All variables are defined in Appendix 3. The coefficients on the control variables are not tabulated. The robust standard error is reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.