Impairment Losses: The Impact Of The First-Time Adoption Of The Accounting Standardization System In Portugal

Abstract

In 2010, Portuguese unlisted companies started to apply a new accounting frame of reference called Accounting Standardisation System (Sistema de Normalização Contabilística – SNC) based on IAS/IFRS. This paper seeks to analyse the impact of SNC first-time adoption regarding the accounting treatment of impairment losses. Portugal has been recognized as a Code-law country, with weak legal enforcement mechanisms, and conservative accounting practices. However, since 2005 Portuguese companies have been changing their financial reporting practices to a common-law institutional logic. Therefore, the present research setting might provide interesting insights to confirm if the differences found are due to management interests, rather than cultural issues.

Differences found are neither due to cultural issues nor management interests. To mitigate political costs associated with their public visibility, larger companies present more credible financial statements that reflect their overall true financial and economic condition.

This study is a valuable contribution to both the users of financial information and domestic standard-setters entities to help them understand and improve the impact of accounting standards. Consistent with Khalil and Simon (2014), it also contributes to the debate on the optimal flexibility permitted by International Financial Reporting Standards to improve reporting quality and reduce earnings management.

Keywords: Impairment losses, IAS/IFRS-based standards, accounting, harmonization, financial reporting

JEL Code: M41 Accounting

INTRODUCTION

From 2005 onwards, Regulation (CE) no.1606/2002 of the European Parliament and Council enforced companies with securities traded on a European regulated market to apply the International Accounting Standards/International Financial Accounting Standards (IAS/IFRS) when preparing their consolidated accounts. Regarding the remaining companies, European member states were granted the freedom to choose which accounting model to use. In July 2009, the Portuguese Accounting Committee (*Comissão de Normalização Contabilística* – CNC) approved a new accounting frame of reference called Accounting Standardisation System (*Sistema de Normalização Contabilística* – SNC) based on IAS/IFRS. The SNC superseded the previous Portuguese Accounting Plan (*Plano Oficial de Contabilidade* – POC) and was implemented by Portuguese unlisted companies from 1 January 2010 onwards.

With the implementation of SNC, the *impairment of assets* became one of the innovating aspects of this new Portuguese accounting frame of reference. IAS/IFRS- based accounting standards, such as SNC, are strongly focused on the concept of fair value, possessing a vast set of disclosure requirements and allowing for an extensive application of fair value. This characteristic makes them different from almost every other domestic accounting frame of reference of several countries, including Portugal (Bae et al., 2008; Aharony et al., 2010). The SNC's accounting standard that deals with impairment of assets is the Accounting and Financial Reporting Standard (Norma Contabilística de Relato Financeiro – NCRF) 12 (*Impairment of assets*).

The present study seeks to analyse the impact of SNC first adoption regarding the accounting treatment of impairment losses. More specifically, it intends to understand if SNC's accounting standards related to impairment of assets reflect less conservative accounting practices, and examine the potential explanatory factors for the differences found between the amounts of impairment losses recognized under POC and SNC in the transition period.

Prior literature has indicated several reasons for the recognition of impairment losses: economic cycles (Spear and Taylor, 2012); firm characteristics (Elliot and Shaw, 1988); earnings management (McNichols and Wilson, 1988; Jackson and Liu, 2010); tax purposes (Eilifseu et al., 1999; Watts, 2003; Baralexis, 2004; Lara et al., 2009). Therefore, the Portuguese setting was chosen for several reasons. First, since 2007, the Portuguese economy has been severely affected by the global financial crisis of 2007-2008, and more recently by the European sovereign debt crisis, characterized by economic recession and scarcity of liquidity. Spear and Taylor (2011) found that during periods of economic recession there would be a tendency for firms to present higher levels of impairment losses.

Second, prior literature has found that the first adoption of any set of IAS/IFRS-based accounting standards will appeal to a certain degree of interpretation, judgments and estimates. Therefore, managers will have some flexibility in the recognition of impairment losses through the application of earnings management techniques, such as big bath (Jordan and Clark, 2004; Sevin and Schrorder, 2005; Jordan et al., 2007). Leuz et al. (2003) indicate that the magnitude of earnings management is on average higher in Code-law countries with low investor protection rights (e.g. European Latin countries, such as Portugal), compared to common-law countries with higher investor protection rights, which highlights the relevance of this research setting to assess if management interests influenced the recognition of impairment losses.

Third, prior literature on the adoption of IAS 36 (*Impairment of assets*) among Portuguese listed companies has found that firms engaged in earnings management techniques (Alves, 2013a, 2013b). However, the present study is focused only on the first-time adoption of SNC accounting standards. Even knowing that SNC accounting standards are based on IAS/IFRS they were applied by Portuguese unlisted companies only in 2010 onwards. Moreover, Portuguese unlisted companies have a smaller dimension compared to listed

companies, less public visibility, and are basically family-held. Consequently, they are less scrutinized by relevant stakeholders and therefore it is expected different reporting incentives.

Fourth, according to Gray's (1988) cultural accounting framework, culture can impact accounting decisions, and conservatism/secrecy are the most significant accounting values associated with national cultures. Doupnik and Riccio (2006) found that in a high conservatism (secrecy) country (such as, Portugal, Spain and Italy), accountants assign higher numerical probability to verbal probability expressions that determine the threshold for the recognition of items (disclosure of information). However, institutional and legal restrictions affect countries' accounting environments (Leuz et al., 2003; Daske et al., 2008) and the effect of IAS/IFRS mandatory application relies on how they are implemented and the level of enforcement and reporting incentives in each country (Pope and McLeay, 2011). Portugal is a Code-law country characterized by a weak legal enforcement regime compared to Common-law countries (Leuz et al., 2003). However, since 2005, companies in Portugal have been changing their financial reporting practices from a code-law institutional logic to a common-law institutional logic (Guerreiro et al., 2012). Hellman et al. (2015) argue that the adoption of IAS/IFRS (or any other IAS/IFRS-based accounting standards, such as SNC) has had a profound impact on diluting differences associated with cultural aspects. Once more, the Portuguese setting is valuable, in order to confirm if the differences detected in the accounting treatment of impairment losses are due to management interests, rather than to cultural issues.

Finally, at an international level, there is a vast literature on the economic effects of the transition and implementation process of IAS/IFRS (Tendeloo and Vanstraelen, 2005; Callao et al., 2007; Ding et al., 2007; Tsalavoutas and Evans, 2007; Barth et al., 2008; Daske et al., 2008; Morais and Curto, 2008; Jeanjean and Stolowy, 2008; Lantto and Sahlström, 2009; Haller et al., 2009; Aharony et al., 2010; Armstrong et al., 2010; Beuren et al., 2010; Callao et al., 2010; Iatridis and Rouvolis, 2010; Devalle et al., 2010; Fifield et al. 2011; Liu, 2011). However, there

is a scarcity of research on the impact of the adoption of IAS/IFRS adapted standards by unlisted companies in specific countries.

In Portugal, the impact of SNC adoption is under-researched. Existing studies are related to the analysis of factors influencing the preparedness of Portuguese unlisted companies to adopt SNC (Guerreiro et al., 2012a), the analysis of the degree of compliance with NCRF 7 (Property, Plant and Equipment) (Botelho et al., 2015), the development of a fair value model for the dairy sector (Oliveira et al., 2015a), and the first-time adoption effects of SNC in the olive and cork tree cultures (Oliveira et al., 2015b). The present study seeks to overcome this research gap through the analysis of impairment losses associated with SNC first-time adoption and tries to answer Trombetta's et al. (2012) appeal for studies of this nature, due to their valuable contribution for both the users of financial information and the proper domestic standard-setters entities in helping them understand and improve the impact of accounting standards.

Main findings indicate that the differences found are neither due to cultural issues nor management interests. Size is a crucial element explaining the differences found in the accounting treatment of impairment losses under SNC and POC. Consistent with the political costs argument of Watts and Zimmerman (1986), larger companies show a higher level of divergence. To mitigate political costs associated with their public visibility, those companies tend to present more credible financial statements that reflect their overall true financial and economic condition.

These findings contribute to the literature ongoing debate on the different economic effects related to the recognition of impairment losses in different settings and among different companies. Moreover, is also contributes to the 'debate on the optimal flexibility permitted by standard setting' (Khalil and Simon, 2014: 100) informing regulators, supervisory entities and auditors in understanding manager's discretionary reporting choices permitted by accounting.

In the next section, we present the regulatory background regarding the recognition of impairment losses. In following section we present the literature review and discuss hypotheses. Thereafter, we describe the research method, report results, and finalize with conclusions.

IMPAIRMENT OF ASSETS: LEGAL FRAMEWORK

Within SNC, issues relating to impairment of non-current assets are dealt with in NCRF 8 (*Non-Current Assets Held for Sale and Discontinued Operations*), NCRF 11 (*Investment Property*), NCRF 12 (*Impairment of Assets*), NCRF 13 (*Interests in Joint Ventures* and *Investments in Associates*), NCRF 14 (*Business Combinations*), NCRF 15 (*Investments in Subsidiaries* and *Consolidation*), and NCRF 16 (*Exploration for and Evaluation of Mineral Resources*). Impairment of financial assets is addressed by NCRF 27 (*Financial Instruments*). Finally, impairment related to inventories is addressed by NCRF 18 (*Inventories*). The main differences between POC and SNC in terms of accounting treatment of impairment losses are shown in Table 1.

(Table 1 about here)

LITERATURE REVIEW AND DEVELOPMENT OF HYPOTHESES

Prior research

The economic effects of the transition and implementation process of IAS/IFRS have been studied in terms of: a) quantitative impacts of IAS/IFRS adoption (Guerreiro, 2006; Callao et al., 2007; Guerreiro et al., 2008; Lantto and Sahlström, 2009; Haller et al., 2009; Beuren et al., 2010; Callao et al., 2010; Iatridis and Rouvolis, 2010; Navarro-García and Bastida, 2010; Tsalavoutas, 2011); b) IAS/IFRS adoption and its value relevance (Daske et al., 2008; Morais and Curto, 2008; Aharony et al., 2010; Armstrong et al., 2010; Devalle et al., 2010); c)

conservatism (Tsalavoutas and Evans, 2007; Fifield et al. 2011; Liu, 2011); d) IAS/IFRS adoption and earnings management (Tendeloo and Vanstraelen, 2005; Ding et al., 2007; Barth et al., 2008; Jeanjean and Stolowy, 2008).

These studies are based on empirical evidence from European Latin and Greek settings (Sucher and Jindrichovska, 2004; Guerreiro, 2006; Callao et al., 2007; Tsalavoutas and Evans, 2007; Guerreiro et al., 2008; Callao et al., 2010; Iatridis and Rouvolis, 2010; Navarro-García and Bastida, 2010; Tsalavoutas, 2011), and countries like the UK, Germany and Finland (Lantto and Sahlström, 2009; Haller et al., 2009; Beuren et al., 2008).

However, in Portugal, the effects of IAS/IFRS adoption are under-researched, and so far existing studies have focused on the preparedness of companies to adopt IFRS (Guerreiro, 2006; Guerreiro et al., 2008) and accounting quality (Morais and Curto, 2008). Consistent with table 2 (panel A), during the IFRS transition period Portuguese listed companies had to follow CESR's (Committee of European Securities Regulators) disclosure recommendations, but only larger companies commercially internationalized, audited by Big4 auditing firms, and with lower leverage did (Guerreiro, 2006). The adoption of IFRS improved earnings quality, because companies reported less smooth earnings (Morais and Curto, 2008). However, very few companies were prepared to adopt IFRS, basically larger companies, with higher levels of commercial internationalization and audited by Big4 auditing firms (Guerreiro et al., 2008). Portuguese companies not listed on a Stock Exchange Security regulated market only changed voluntarily their financial reporting institutional logic (from a code-law institutional logic to a common-law institutional logic) if they would benefit from it (Guerreiro et al., 2012a).

(Insert Table 2 here)

On the other hand, studies on the adoption effects of IAS/IFRS adapted standards (such as SNC) have been scarce. Findings presented in Table 2 (Panel B) suggest that, generally, the degree of preparedness to implement SNC was low, but institutional factors (such as the

participation of the parent company in decisions regarding conversion procedures, the conduct of export activities, the presence of exclusively Portuguese shareholders, and the extent of reliance on consulting services) had a positive influence on the degree of preparedness (Guerreiro et al., 2012b). Moreover, institutional logics can explain SNC implementation (Guerreiro et al., 2015). In terms of compliance level with disclosures requirements of specific SNC's accounting standards, research indicates that company's age, liquidity, profitability, foreign activity, and the type of auditing firm are significant determinants (Martins et al., 2014; Botelho et al., 2015). Regarding the innovative aspects of SNC, such as fair value, Oliveira et al. (2015a) found that market values for dairy production of animals are inconsistent, reducing comparability across the sector. However, SNC adoption led to less conservative accounting practices suggesting that cultural aspects and country enforcement regimes did not influence its adoption (Oliveira et al., 2015b).

At an international level, research on impairment of assets has focused on the recognition, measurement, and disclosure effects of asset write-offs (Strong and Meyer, 1987; Elliot and Shaw, 1988; Francis et al., 1996; Riedl, 2004; Zucca and Campbell, 1992; Rees et al., 1996; Deming et al., 2007; Siggelkow and Zülch, 2013), goodwill impairment accounting treatment during the transition year (Jordan and Clark, 2004; Sevin and Schroeder, 2005; Beatty and Weber, 2006; Lapointe-Antunes et al., 2008; AbuGhazaleh et al., 2011) and in periods subsequent to the transition year (Jordan et al., 2007; Masters-Stout et al., 2008; Godfrey and Koh, 2009; Lee and Yoon, 2012; Iatridis and Senftlechner, 2014; Jordan and Clark, 2015), and the level of compliance with disclosure requirements regarding goodwill impairment testing (Carlin et al., 2010; Carlin and Finch, 2011; Guthrie and Pang, 2013; Kaiying Ji, 2013; Carvalho et al., 2016a) However, findings have shown mixed conclusions (Table 3, Panel A and B). Some show that asset write-offs and goodwill impairment can be used for strategic opportunistic management purposes (Strong and Meyer, 1987; Elliot and

Shaw, 1988; Zucca and Campbell, 1992; Francis et al., 1996; Jordan and Clark, 2004; Riedl, 2004; Sevin and Schroeder, 2005; Beatty and Weber, 2006; Deming et al., 2007; Jordan et al., 2007; Lapointe-Antunes et al., 2008; Masters-Stout et al., 2008; AbuGhazaleh et al., 2011; Siggelkow and Zülch, 2013), as a response to changes in the economic environment of the firm, reflecting relevant economic information about a company's performance (Rees et al., 1996; Godfrey and Koh, 2009; Lee and Yoon, 2012; Iatridis and Senftlechner, 2014; Jordan and Clark, 2015), and as a reflection of country-specific factors (e.g. differences related to audit function and accounting standards) and a firm's corporate governance characteristics (Alves, 2013a; Chao and Horng, 2013; Iatridis and Senftlechner, 2014). Moreover, regarding the level of compliance with disclosure requirements (Table 3, Panel C) prior literature has documented reduced levels of compliance regarding goodwill impairment and goodwill impairment testing (Carlin et al., 2010; Carlin and Finch, 2011; Guthrie and Pang, 2013; Kaiying Ji, 2013; Carvalho et al., 2016a). Carvalho et al. (2016b) provides an extensive and systematic literature review on goodwill and mandatory disclosure compliance and they corroborate these findings, concluding that enforcement mechanisms must be reinforced in order to improve information quality.

(Insert Table 3 about here)

Regarding impairment of assets, few studies have been made in Portugal, hitherto (Alves 2013a, 2013b). These two studies assess the first-time adoption impact of IAS 36 among Portuguese listed companies regarding impairment of assets and goodwill impairment charges. Alves (2013a) found that firms impair their assets more often when earnings are unexpectedly low or high, suggesting either big bath or income smoothing behaviours. Big4 auditors give firms more discretion to engage in income-increasing earnings management by postponing assets impairments. When there are incentives to under-report earnings, assets impairment charges increase more among firms audited by non-Big4 auditing firms. Alves (2013b) found

that goodwill impairment charges are significantly positively related to earnings management. The subjective component in the determination of impairment charge by managers (such as the estimation of parameters like cash-flow and discount rate) give rise to earnings management behaviours.

However, in Portugal, no study has been made about the impact of the first adoption of SNC by unlisted companies regarding impairment of assets. Gray (1988) categorized the European Latin countries (such as Spain, Italy, and Portugal) as those emphasizing conservatism and secrecy. SNC standards are not full IAS/IFRS. Instead, SNC is a set of IAS/IFRS-based standards. However, since 2005 Portuguese companies have changed their financial reporting from a Code-law institutional logic to a Common-law institutional logic (Guerreiro et al., 2015). However, Kvaal and Nobes (2012) and Lourenço et al. (2015) found that national patterns in financial reporting practices persist over time. Callao et al. (2007) concluded that after the adoption of IAS/IFRS Spanish companies continued to provide conservative financial information, most likely due to cultural issues. But Callao et al. (2009, 2010) found that these differences were not related to traditional accounting systems. On the other hand, higher differences between IAS/IFRS-based standards and local GAAP (Ding et al., 2007), mainly in periods of economic recession and scarcity of liquidity (Spear and Taylor, 2011), imply more opportunities for management opportunistic behaviour, unless appropriate enforcement mechanisms are implemented (Leuz et al., 2003; Daske et al., 2008). Therefore, the present paper seeks to analyse if the recognition effects of impairment losses by Portuguese unlisted companies, during the transition period from POC to SNC accounting standards, are due to management interests, rather than to cultural issues.

Development of hypotheses

Conservatism

Conservatism relates to the 'inclusion of a degree of precaution when exercising the necessary judgment to proceed with estimations under certain conditions so that assets or earnings are not overrated, and liabilities or expenses not underrated' (SNC's Conceptual Framework: § 37 – Aviso 15652/2009). Prior literature has demonstrated that impacts on the transition from local GAAP to IAS/IFRS have had significant effects on several captions of financial statements (Tsalavoutas and Evans, 2007; Fifield et al. 2011; Liu, 2011). Callao et al. (2007, 2010) corroborate this finding among British and Spanish companies concluding that due to cultural issues, Spanish companies present more conservative financial information. The economic effects of IAS/IFRS adoption impact on key accounting ratios (Lantto and Sahlström, 2009) and differences found are related to fair value issues and the recognition of construction contracts, tangible/intangible assets, provisions and contingent liabilities/assets, and business combinations (Haller et al., 2009; Lantto and Sahlström, 2009).

In Portugal, when companies adopted SNC for the first time, if there were no differences between POC and SNC, all captions of financial statements would be equal. However, literature has been suggesting that, at least in the adoption of IAS/IFRS, those differences do exist (Bae *et al.*, 2008; Aharony *et al.*, 2010). In the first place, according to Regulation 1606/2002 from the EU, IAS/IFRS adoption promotes transparency and financial reporting quality. Second, because IAS/IFRS are strongly focused on the concept of fair value, possessing a vast set of disclosure requirements and allowing for an extensive application of fair value. This characteristic makes them different from almost every other domestic accounting frame of reference of several countries, including Portugal (Bae *et al.*, 2008; Aharony *et al.*, 2010). The level of conservatism is reflected on the amount of total assets, equity, earnings, and liabilities. Gray (1980) refers that conservatism can be measured by 'profits-measurement behaviour'. Thus, taking SNC as the yardstick, the following rationales can be established (Oliveira et al., 2015b):

a) If ‘total of assets’, ‘equity’, and ‘earnings’ under POC is higher (lower) than those under SNC, then POC accounting practices would be less (more) conservative than SNC accounting practices;
b) If ‘liabilities’ and ‘impairment losses’ under POC is higher (lower) than those under SNC, then POC accounting practices would be more (less) conservative than SNC accounting practices.

In SNC, accounting standards are based on IAS/IFRS, indicating that it is expectable that POC will continue to be more conservative than SNC, namely in the accounting treatment of impairment losses. However, Kvaal and Nobes (2012) and Lourenço et al. (2015) indicate that financial reporting practices persist over time.

H1: The level of conservatism between POC and SNC standards is significantly different.

Reporting incentives

Prior research on the impact of IAS/IFRS adoption indicates that the level of preparedness of companies to adopt IFRS and the level of compliance with disclosure requirements in the transition process to IFRS were low (Sucher and Jindrichovska, 2004; Guerreiro, 2006; Tsalavoutas and Evans, 2007; Guerreiro et al., 2008). Only larger companies with higher levels of commercial internationalization, audited by BIG4 auditing firms (Guerreiro, 2006; Guerreiro et al., 2008), with strong debt and equity financing needs (Iatridis and Rouvalis, 2010), were better prepared to adopt IAS/IFRS and present higher levels of voluntary disclosure during the transition to IFRS. However, Tsalavoutas (2011) found that the industry sector, the auditor type, and changes in the 2004 shareholders’ equity/net profit as a result of the adoption of IAS/IFRS explain the levels of compliance with IAS/IFRS mandatory disclosure requirements. Moreover, Tsalavoutas and Dionysiou (2014) found that among Greek companies, the value relevance of accounting numbers differs across high-and-low compliance/disclosure

companies. The present paper does not study disclosures on impairment of assets, though. Instead, it seeks to examine the reporting incentives related to the recognition effects of impairment losses by Portuguese unlisted companies during the transition period from POC to SNC accounting standards.

Size

Larger companies possess more complex structures resulting in different patterns of impairment losses recognition compared to small companies. On the other hand, Watts and Zimmerman (1986) argue that political costs are higher for larger companies, those more easily scrutinized by relevant stakeholders (such as financial analysts). Thus, they will be more anxious to ensure that their financial statements are credible (Guerreiro et al., 2008), to process accounting information more efficiently (Chao and Horng, 2013), and create fewer incentives for manager's opportunistic behaviour related to impairment losses (Kwak et al., 2009). Prior literature has found mixed results: a positive association between the recognition of impairment losses and companies' size (Chao and Horng, 2013; Siggelhow and Zülch, 2013), negative associations (Sevin and Shroeder, 2005) and no association at all (Jordan and Clark, 2015).

H2: The transition impact from POC to SNC on the recognition of impairment amounts is associated positively with company's size.

Profitability

Guerreiro et al. (2008) argue that from a political cost perspective more profitable companies have stronger incentives in ensuring that their financial statements are credible and reliable. Thus, the recognition pattern of impairment losses will reflect the economic condition of the company. According to Godfrey and Koh (2009), US companies with a poor economic outlook recognize more impairment losses than companies with a strong investment opportunity.

On the other hand, prior literature indicates that the subjectivity underlying the assessment of impairment losses by managers may give rise to earnings management behaviour (Alves, 2013b). Earnings management can be seen as a possible explanation for the timing and amount of discretionary impairments (Zucca and Campbell, 1992). Prior literature confirms that to manage political costs managers have incentives to behave opportunistically overstating impairment losses through 'big bath' or 'income smoothing' behaviours (Strong and Meyer, 1987; Elliot and Shaw, 1988; Zucca and Campbell, 1992; Francis et al., 1996; Jordan and Clark, 2004; Riedl, 2004; Sevin and Schroeder, 2005; Beatty and Weber, 2006; Deming et al., 2007; Jordan et al., 2007; Lapointe-Antunes et al., 2008; Masters-Stout et al., 2008; AbuGhazaleh et al., 2011; Alves, 2013a; Siggelkow and Zülch, 2013). 'Big bath' behaviour occurs in a year 'when [the pre-write-off] earnings are already low [and the big hit is taken] because making things just a little bit worse by cleaning out the rubbish does little harm to either reputation or prospects' (Jordan and Clark, 2015: 159). This enhances profitability and rate of return in the future. 'Income smoothing' occurs in a year when pre-write-off earnings are high and impairment losses are used to reduce earnings to the expected level (Zucca and Campbell, 1992).

Studies from the USA (Strong and Meyer, 1987; Elliot and Shaw, 1988; Zucca and Campbell, 1992; Sevin and Schroeder, 2005; Jordan and Clark, 2004) found that impairment of assets charges is associated with big bath and income smoothing behaviour. Francis et al. (1996) found that both factors (opportunistic behaviour and poor past share performance) drive the recognition of impairment assets charges. Rees et al. (1996) found big bath reporting practices (pre-write-off earnings were, on average, lower than industry averages). But this reporting practice does not reflect opportunistic behaviours (negative abnormal returns in the write-off year did not reverse in subsequent years), suggesting that managers are responding to changes in the economic environment. However, Riedl (2004) found the opposite. More

recently, Jarva (2009) found that US firms opportunistically avoid impairments, even though this behaviour is closely related to economic factors, rather than opportunistic behaviours.

Evidence from the UK context (AbuGhazaled et al., 2011) indicates that impairment losses are positively (negatively) associated with big bath (income smoothing) behaviours. Among Portuguese listed companies, Alves (2013a) found positive associations between impairment losses and both big bath and income smoothing behaviours. Based on these competing theoretical arguments and conflicting empirical results, the present study will examine the association between impairment losses and profitability without predicting its direction.

H3: The transition impact from POC to SNC on the recognition of impairment amounts is associated with company's profitability.

Leverage

In highly leveraged companies, one way to reduce information asymmetries between managers and debt holders is through the implementation of monitoring mechanisms (Jensen and Meckling, 1976). Financial statements can be used to monitor these agency relationships. Following this argument, managers of highly leveraged companies have incentives to recognize higher amounts of impairment losses. These companies have the value of their assets under a frequent scrutiny from debt holders, forcing managers to adopt recognition patterns of impairment losses consistent with their private information about the economic performance of the company (AbuGhazaleh et al., 2011).

On the other hand, credit agreements may contain debt covenants. The violation of debt covenants can lead to an immediate repayment claim from the debt holder, increasing corporate financial distress (liquidity risk). To avoid the violation of covenants, Watts and Zimmerman

(1986) argue that in highly leveraged companies managers have incentives to take a discretionary behaviour by recording less impairment losses.

Consistent with these arguments, the association between impairment losses and leverage is not clear. Prior literature presents mixed results. Among US companies, Riedl (2004) found a negative association, but Godfrey and Koh (2009) did not find any significant association. AbuGhazaleh et al. (2011) found a negative association among UK companies. Siggelkow and Zülch (2013) did not find any significant association. And finally, among Portuguese listed companies, Alves (2013a) after (before) controlling results for audit quality found a negative (positive) association. Based on these competing theoretical arguments and conflicting empirical results, the present study will examine the association between impairment losses and leverage without predicting its direction.

H4: The transition impact from POC to SNC on the recognition of impairment amounts is associated with the level of leverage

Tax measurement criteria

Prior literature indicates that the poorest performing companies in the USA delay the recognition of write-offs to avoid technical violations of debt covenants or to delay the recognition of tax losses carry forwards until profitability is restored (Strong and Meyer, 1987). On the other hand, German companies smooth their earnings through write-offs with the intent to reduce tax payments (Siggelkow and Zülch, (2013).

Like Germany, Portugal is a code-law country in which financial statements under POC were driven by prudence and creditor protection. These factors result in a tendency to recognize expenses sooner rather than later, and in good years rather than in bad. Moreover, in Portugal there is a close link between tax accounting and the accounting frame of reference, motivating companies to manipulate their financial statements (through income smoothing behaviours) to

reduce tax payments. Nevertheless, tax criteria to assess impairment losses are more objective than the underlying subjective accounting criteria and main differences are related to impairment losses in accounts receivables, inventories and fixed assets. Moreover, compared to accounting criteria, tax criteria are more restrictive when assessing impairment losses, leading to the recognition of lower amounts.

POC accounting did not address when impairment losses should be recognized or how they should be measured. Like German companies, individual financial statements of Portuguese unlisted companies were characterized by high tax-book conformity (Siggelkow and Zulch, 2013). Graham and Smith (1999) suggest that under a progressive tax rate high tax-book conformity reduces tax payments through income smoothing. But since financial reporting practices persist over time (Kvaal and Nobes, 2012) the recognition of impairment losses might be closely related to purposes of tax conformity, rather than opportunistic behaviours.

H5: The impact of transition from POC to SNC on the recognition of impairment amounts is associated with the adoption of tax measurement criteria concerning impairment.

Management compensation

Prior research found that CEO change is associated with managers' opportunistic behaviour regarding the recognition of impairment losses (Elliot and Shaw, 1988; Francis et al., 1996; Riedl, 2004; Kvaal, 2005; Beatty and Weber, 2006; Lapointe-Antunes et al., 2008; Masters-Stout et al., 2008; Zang, 2008). However, companies in Portugal are family-owned. Families are by far the most frequent largest shareholder and are in control of the company (Lopes and Rodrigues, 2007). Therefore, Portuguese companies face few agency costs and the CEO is likely to remain unchanged.

On the other hand, several Portuguese companies are State-owned. The ownership structure – private and public – can influence managers' motivations to determine their accounting policies regarding impairment losses. State-owned companies are more subject to pressures on the part of their stakeholders to disclose transparent financial information (Branco and Rodrigues, 2006). Another particular characteristic of Portuguese State-owned companies concerns the compensation schemes of its managers. Manager's compensation is defined by the Government, it is indexed to Prime Minister's salary and the law permits other compensation supplements linked to managers' performance assessment, but restricted to a certain amount. These compensation supplements can be linked to the financial/economic performance of the company.

Theoretically, among privately held companies the short-term component of management compensation is based on earnings-based bonus, and the long-term component can contain a stock-based bonus. Consequently, this may affect managers' accounting choices and their preference for bellow versus above-the-line accounting treatment (Beatty and Weber, 2006). Thus, they will have incentives to delay impairment losses to later years in order to increase current earnings (Siggelkow and Zülch, 2013). Beatty and Weber (2003) found that managers with earnings-based bonus plans are more likely to voluntarily report income-increasing than income-decreasing accounting changes. However, Healy (1985) indicates that when current earnings are beyond the bounds embedded in compensation contracts, to increase future expected bonus, managers choose income-decreasing accruals. When the current level of earnings is within these bounds, managers may choose income-decreasing accruals.

Prior literature has found mixed results. Among US companies Beatty and Weber (2006) and Lapointe-Antunes et al. (2008) found a negative association between write-offs and management compensation. However, other studies did not find any association at all among German companies (Siggelkow and Zülch, 2013), UK companies (AbuGhazaleh et al., 2011),

and Egyptian companies (Khalil and Simon, 2014). Among Portuguese unlisted companies it is very difficult to collect information about management compensation schemes, because they are not obliged to report them. Due to unavailability of detailed data, and consistent with Khalil and Simon (2014), we used ownership structure – private and public – as a proxy for the management compensation variable. Managers from privately held companies have more incentives to act in a more discretionary manner than managers from state-owned companies.

H6: The impact of the transition from POC to SNC on the recognition of impairment amounts is associated with the management compensation.

RESEARCH METHODOLOGY

Sample

Out of the *Biggest 500 Companies* from the *Exame Magazine* ranking in 2010, we selected the companies whose individual annual reports for 2009 and 2010 had been published in their web sites. SNC was approved and published through the Decree-Law no. 158/2009. After its publication the Portuguese regulation established the following accounting regime:

1) when preparing their consolidated accounts:
    a. companies with securities traded on a European regulated market had to apply IAS/IFRS (Regulation (EU) no. 1606/2002 of the European Parliament and Council).
    b. companies with no securities traded on a European regulated market had the option to apply IAS/IFRS instead of SNC standards (Decree-Law no. 158/2009). However, their financial statements should be subject to statutory auditing.
    c. all the other companies had to apply SNC standards (Decree-Law no. 158/2009).
2) when preparing their individual accounts:

a. companies with securities traded on an European regulated market had to apply IAS/IFRS (Regulation no. 11/2005 from the Portuguese Stock Exchange Commission – (CMVM – Comissão do Mercado de Valores Mobiliários)), and must be subject to statutory auditing.
b. companies with no securities traded on an European regulated market, but included in the consolidation perimeter, had the option to apply IAS/IFRS instead of SNC standards (Decree-Law 158/2009). However, their financial statements should be subject to statutory auditing.
c. all the other companies had to apply SNC standards (Decree-Law no. 158/2009).

Consequently, from the individual annual reports initially downloaded from companies' web sites, we excluded those which in 2010 had (chosen) to apply IAS/IFRS, when preparing their individual annual reports. We also removed all Trusts and Holding companies due to their specific purposes and regulations. The final sample comprises a total of 43 Portuguese non-listed companies that applied the new Portuguese accounting frame of reference, SNC, in 2010.

Measurement of variables

The individual annual reports from the 43 Portuguese companies for the periods of 2009 and 2010 were analysed. In 2010, Portuguese unlisted companies were required to restate their 2009 financial statements according to the new accounting frame of reference. This would allow companies to present in 2010 both the end-period data of the financial statements and its comparatives under SNC. The present study analyses the following financial statements: the end-period data of the financial statements from 2009 (under POC) and the initial period data of the financial statements from 2010 (under SNC). According to prior literature (Aharony *et al*., 2010; Callao *et al*., 2010; Tsalavoutas, 2011; Oliveira et al., 2015b) we have extracted the following information:

- Amount of total assets under POC and SNC;
- Amount of equity under POC and SNC;
- Amount of liabilities under POC and SNC;
- Amount of earnings under POC and SNC;
- Amount of impairment losses under POC and SNC.

The amount of impairment losses include all impairment losses recognized less the reversals of impairment losses. According to Aharony *et al.* (2010), a comparability index for impairment losses (CIIL) in company *i* was created and calculated as follows:

$$CIIL_i = \frac{|IL_i\,SNC - IL_i\,POC|}{|IL_i\,SNC|} \quad (1)$$

where

$IL_i\,SNC$ = amount in Euros of impairment loss, according to SNC, in company *i*;

$IL_i\,POC$ = amount in Euros of impairment loss, according to POC, in company *i*;

This comparability index measures the degree of divergence between the amounts recognized as impairment losses at the date of transition from POC to SNC. A comparability index near zero indicates that the amounts recognized are similar, according to both legal frameworks. A comparability index higher than zero would mean that the values recognized as impairment losses according to SNC are higher or lower than the recognized amount according to POC.

Table 4 presents the definitions of independent variables, as well as the expected signal aligned with the proposed hypotheses.

(Table 4 about here)

The variable 'size' was measured by total assets of company *i* in the period *t-1*. The use of this proxy is consistent with prior literature (AbuGhazaleh et al., 2011; Chao and Horng, 2013; Siggelkow and Zulch, 2013).

The variable ‘profitability’ was measured by return on assets (ROA) (Jordan and Clark, 2015; AbuGhazaleh et al., 2011) and Earnings growth rate (Deming et al., 2007). Income was corrected for taxes and impairment losses. Return on assets will help capture firm-specific past performance (AbuGhazaleh et al., 2011). Consistent with big bath arguments, it is expected that the poorer the firm’s past performance (ROA), the greater the magnitude of reported impairment losses (Francis et al., 1996; AbuGhazaleh et al., 2011; Jordan and Clark, 2015). On the other hand, consistent with income smoothing arguments, it is expected that the healthier the firm’s past performance (ROA), the greater the magnitude of reported impairment losses (Zucca and Campbell, 1992).

Jordan and Clark (2015) argue that if a company experiences a negative (positive) income in the year impairment losses are recorded and a positive income immediately prior to the impairment year, it is likely that impairment loss has been used opportunistically as a ‘big bath’ behaviour (‘income smoothing’ behaviour). Consistent with Francis et al. (1996) and Siggelkow and Zülch (2013), to assess earnings management through income smoothing and big bath accounting we used earnings growth rate. If earnings growth rate in *t* is unexpectedly low (high), earnings management can potentially take a negative (positive) value consistent with ‘big bath’ (‘income smoothing’) accounting.

The variable ‘leverage’ was measured by the ratio of total liabilities of company *i* in the year *t-1* to total assets of company *i* in the year *t-1*, and captures the tightness and proximity of firms to violation of their debt covenants (AbuGhazaleh et al., 2011; Siggelkow and Zülch, 2013). Duke and Hunt (1990) state that leverage can be used as a proxy for the closeness to debt covenants restrictions, and the choice between the ratio debt to equity and debt to assets does not play an important role.

The variable ‘tax measurement criteria’ was assessed by a dummy variable assigning the value ‘1’ if the company adopts tax measurement criteria to assess impairment losses, and

'0' otherwise. Prior research has found that impairment losses can be used to manage tax payments (Strong and Meyer, 1987; Siggelkow and Zülch, 2013). Marques et al. (2011) found that Portuguese companies manage discretionary accruals to reduce tax payments. Theoretically, in countries whose accounting and tax systems are closely related, managers have incentives to reduce tax payments (Coppens and Peek, 2005). On the other hand, under POC it was very common to find companies following tax criteria to assess the amount of impairment losses. Since Kvaal and Nobes (2012) argue that accounting practices persist over time, the recognition of impairment losses is expected to be linked to purposes of tax conformity, rather than opportunistic behaviour.

Prior research has found an association between the recognition of impairment losses and management compensation (Beatty and Weber, 2006; Lapointe-Antunes et al., 2008). Management compensation schemes in privately held and State-owned companies are completely different (in State-owned companies management compensation is determined by law and is not indexed to company financial success). Thus, managers from privately held companies have incentives to manage discretionary accruals to maximize their compensation. Among unlisted Portuguese companies, it is very difficult to assess the amounts of management compensation. To proxy for 'management compensation', we used the variable ownership structure measured by a dummy variable assigning the value '1' if the company is privately held, and '0' if State-owned.

Empirical model

The estimation model used to test if the identified factors have affected the recognition of impairment losses in the transition period from POC to SNC is:

$$GCIIL_i = \alpha_0 + \beta_1 Size_i + \beta_2 Return\ on\ assets_i + \beta_3 Earnings\ growth\ rate_i + \beta_4 Leverage_i + \beta_5 Tax\ measurement\ criteria_i + \beta_6 Management\ compensation_i + \mu_I \quad (2)$$

RESULTS

Descriptive analysis

Table 5 presents the descriptive statistics for both dependent and independent variables.

(Table 5 about here)

The minimum value in the CIIL is zero. Such a result indicates that some companies reported the same amount of impairment loss under both accounting frames of reference. But the mean value is 1.979, suggesting that the values recognized as impairment losses according to SNC are divergent from those in POC. However, CIIL presents a maximum value of 40.945. This result relates to a company that had recognized reversals of impairment losses of 0.355 MEuros in POC, but which had only recognized 0.008 MEuros in SNC, at the date of transition. The company took advantage of the transition period to recognize impairment losses not acknowledged until that date. Impairment losses are closely linked to fair value issues. Prior literature on IFRS adoption has concluded that main differences are justified by accounting treatment of fair value (Callao et al., 2007; Lantto and Sahlström, 2009).

The variable 'Return on Assets' presents a mean value of 0.014. This value is positive but considerably low. Results indicate that some companies have negative ROA (minimum = -0.324) and considerably high ROA (maximum = 0.44), and according to literature there is a potential incentive for companies to engage in big bath/income smoothing accounting (Francis et al., 1996; AbuGhazaleh et al., 2011; Jordan and Clark, 2015; Zucca and Campbell, 1992).

On average, between the period t-1 and t, earnings have grown 0.369. Once again, some companies show a negative earnings growth rate (minimum = -1.288) and others a very positive one (maximum = 3.762). Consistent with Francis et al. (1996), Siggelkow and Zülch (2013), and Jordan and Clark (2015), this indicator suggests that companies may have had

incentives to engage in earnings management through income smoothing or big bath accounting.

The mean value for the variable 'leverage' ratio is high (mean value = 1.039), suggesting that companies rely heavily on banking financing. Once again, managers have incentives to delay the recognition of impairment losses to avoid debt covenants violations (Watts and Zimmerman, 1986) or to assume all impairment losses in case their credit agreements do not have contracting restrictions and debt holders exercise scrutiny over impairment losses (Jensen and Meckling, 1976).

Concerning the assessment of impairment losses, companies have to clearly indicate in the notes to financial statements the criteria used: tax criteria or accounting criteria. Around one tenth of the companies analysed indicate in their annual reports that they had applied tax criteria to measure impairment losses. The other 91% of the companies explicitly said they had applied accounting criteria. The remaining companies did not disclose information on this topic. Finally, the sample included 23 (54%) privately-held companies and 20 (46%) State-owned companies

Table 6 presents the results of *Wilcoxon* tests to assess significant differences on the mean values of some captions from the balance sheet and income statement prepared according to POC and SNC, and shows if POC accounting standards are more conservative than SNC accounting standards, as foreseen in hypothesis H1. Results indicate that the total amount of assets, equity, liabilities, and pre-impairment losses & tax earnings in POC and in SNC were not significantly different (p-value > 0.05). Hypotheses H1 is not supported. Thus, according to Gray (1988), the levels of conservatism between POC and SNC accounting standards are not significantly different. Our results are consistent with the arguments of Kvaal and Nobes (2012) and Lourenço et al. (2015): financial reporting practices persist over time. Accordingly, findings show that the adoption of SNC did not lead to a higher/lower level of conservatism,

even concerning the amounts of impairment losses recognized. Consistent with Hellman et al. (2015), the adoption of SNC diluted differences associated with cultural aspects.

(Table 6 about here)

Table 7 shows the results of *Mann-Whitney U* tests used to analyse the differences on the mean (median) values of the CIIL between the different measurement criteria used. Results indicate that the amount of impairment losses is not significantly different (*p-value* > 0.05) between companies that have and have not adopted tax measurement criteria to assess impairment losses.

(Table 7 about here)

Table 8 shows the results of Mann-Whitney U tests used to analyse the differences on the mean values of firms' characteristics among companies with a high/low impact of transitional impairment losses. High/low impact of transitional impairment losses was assessed by assigning the value '1' if the CIIL in company *i* was higher than its mean value (mean value = 1.979), and '0' otherwise. Only five companies had a high impact of transitional impairment losses. These companies have higher values for total assets, total liabilities, equity, are more leveraged, and have a negative ROA. Prior to the recognition of transitional impairment losses companies had a negative performance, but earnings evolved favourably (earnings growth rate), which is inconsistent with arguments of management opportunistic behaviour. Pre-impairment losses & tax earnings are more negative, and on average companies recognized more reversals of impairment losses. However, findings indicate that the differences are not statistically significant (p-value > 0.05).

(Table 8 about here)

Regression analysis

Consistent with prior research among Portuguese listed companies (Alves 2013a, 2013b), hypotheses were tested using ordinary least-squares multiple regression to assess the existing

inter-connections between the several independent variables and the comparability index for total impairment losses. The Kolmogorov-Smirnov test suggested that the dependent variable and the original independent variables did not follow a normal distribution. To overcome this problem and to avoid any potential non-linearity relationship between the dependent and independent variables, we followed Cooke (1998) and both dependent and independent variables were transformed by computing normal scores using Blom's transformation.

A correlation matrix was constructed after the original variables' transformation. Results from Table 9 present a statistically significant negative correlation between 'CIIL' and 'Return on assets' (p-value < 0.05). This relation indicates that companies with lower ROA present higher levels of divergence in the amounts of transitional impairment losses, which is consistent with arguments that these differences may be due to management interests. On the other hand, findings also indicate a statistically significant positive correlation between 'CIIL' and 'Size' (*p-value* < 0,05) and 'Leverage' (p-value < 0.05). According to political cost argument (Watts and Zimmerman, 1986), because these companies are highly leveraged and rely heavily on banks, they are easily scrutinized by relevant stakeholders (e.g. debt-holders) managers have incentives to process accounting more efficiently, rather than act opportunistically. Therefore, financial statements reflect the company's overall true financial an economic condition. This is consistent with findings among US companies (Rees et al., 1996; Jarva, 2009). The remaining correlations across the several independent variables are low, indicating low levels of multicollinearity.

(Table 9 about here)

The assumptions of the regression model have been tested, namely concerning the levels of autocorrelation, multicollinearity, heteroskedasticity, outliers, influential observations and normality of residuals. Regarding outliers and influential observations, results did not evidence their existence. Table 10 indicates that the value inflated factors (VIF) evidenced the

absence of multicollinearity problems (VIF < 2.293). Autocorrelation is minimal (Durbin-Watson = 2.161).

(Table 10 about here)

Table 10 shows the results of the regression model, revealing through the *F* statistics that the model is statistically significant (*p-value* < 0.05) for GCIIL, with an explanatory power (adjusted R^2) of 0.202. Table 7 shows that CIIL is associated positively with 'size' and 'tax measurement criteria' (*p-value* < 0.05). Results support hypothesis H2 (size) and H5 (tax measurement criteria). Larger companies present higher differences in the amounts of impairment losses recognized under POC and SNC in the transition period. Consistent with Watts and Zimmerman (1986), political costs are an important element to manage when dealing with impairment losses, mainly related to changes in the accounting frame of reference. Accordingly, they release credible financial statements demonstrating fewer incentives for manager's opportunistic behaviour (Guerreiro et al., 2008; Kwak et al., 2009; Chao and Horng, 2013). On the other hand, companies that had adopted tax measurement criteria to assess impairment losses present higher levels of divergences in the amounts of impairment losses recognized under POC and SNC. According to Table 8, companies with a higher level of divergence are characterized by larger size, low financial performance (negative ROA), but positive earnings growth rate. As discussed previously, this profile is inconsistent with arguments of manager opportunism. Consequently, we can conclude that companies who had adopted tax measurement criteria present higher levels of divergences for tax-book conformity, rather than for reduction of tax payments.

Results from Table 10 show that CIIL is not statistically associated with 'return on assets', 'earnings growth rate', 'leverage', and 'management compensation'. Hypotheses H2 (profitability), H3 (leverage), and H6 (management compensation) are not supported. In contrast to previous literature, in which managers use impairment losses opportunistically, to

avoid the violation of debt covenants or manage management compensation (Strong and Meyer, 1987; Elliot and Shaw, 1988; Zucca and Campbell, 1992; Francis et al., 1996; Beatty and Weber, 2006; Lapointe-Antunes et al., 2008), these findings indicate that companies did not evidence 'big bath' or 'income smoothing' behaviours. Once more, consistent with Watts and Zimmerman (1986), in the recognition of impairment losses managers chose to reflect the economic condition of the company, and consequently manage their political costs related to changes in the accounting frame of reference. Alves (2013a, 2013b) is focused on impairment losses reporting incentives among Portuguese listed companies. But, the present study is focused on Portuguese unlisted companies. These findings do not corroborate Alves (2013a, 2013b) conclusions, exhibiting the existence of different reporting incentives between Portuguese listed and unlisted companies.

CONCLUSIONS

This study intended to analyse the impact of SNC first adoption regarding the accounting treatment of impairment losses under two aspects. First, it aimed to understand if SNC accounting treatment of impairment losses reflects less conservative information. Second, to examine if differences found are due to management interests.

Findings reveal that the accounting treatment of impairment losses under SNC is not significantly different from the one under POC. Prior literature confirms that Portugal (compared to other Common-law countries) has cultural features that have a positive impact on more conservative/secrecy financial information (Doupnik and Riccio, 2006). Results indicate that the differences detected in the accounting treatment of impairment losses are not due to cultural aspects. Consistent with Hellman et al. (2015), in the transition period, the first adoption of SC helped dilute differences associated with cultural issues.

Moreover, managers did not behave opportunistically when dealing with impairment losses, during the transition period to SNC. Results did not indicate any pattern of 'big bath' or 'income smoothing' behaviour. On the other hand, consistent with the political costs argument of Watts and Zimmerman (1986), size is a crucial aspect in explaining the differences found. Larger companies are easily scrutinized by their relevant stakeholders. Therefore, to manage political costs, they are more anxious to ensure that their financial statements are credible (Guerreiro et al., 2008) and reflect the economic condition of the company (Godfrey and Koh, 2009). Companies that have adopted tax measurement criteria have also shown a higher level of divergence in the amount of impairment losses under the two accounting frames of reference.

Prior literature among Portuguese listed companies indicates that they engaged in opportunistic behaviours when dealing with impairment losses (Alves, 2013a, 2013b). This is consistent with prior research in other countries (Strong and Meyer, 1987; Elliot and Shaw, 1988; Zucca and Campbell, 1992; Francis et al., 1996; Jordan and Clark, 2004; Riedl, 2004; Sevin and Schroeder, 2005; Beatty and Weber, 2006; Deming et al., 2007; Jordan et al., 2007; Lapointe-Antunes et al., 2008; Masters-Stout et al., 2008; AbuGhazaleh et al., 2011; Siggelkow and Zülch, 2013). However, our findings highlight different reporting incentives, also consistent with previous literature (Rees et al., 1996; Godfrey and Koh, 2009; Lee and Yoon, 2012; Iatridis and Senftlechner, 2014; Jordan and Clark, 2015): impairment losses were used to reflect relevant economic information about a company's performance.

Like in other Latin European countries, the basis for Portugal's corporate regulatory regime is an institutional Code-law logic, rather than Common-law. However, since 2005, Portuguese public companies have been required to apply IAS/IFRS and therefore change their financial reporting institutional logic. This new regulatory context has had an impact on

accountants' mindsets. Our findings may ultimately be a reflection of this progressive change of consciousness surrounding the new institutional logic of financial reporting.

On the other hand, it is very interesting contrasting these findings with those from a different research stream: the degree of compliance with disclosure requirements regarding goodwill impairment and impairment testing. It is well known that higher quality information on impairment losses mitigates investors' uncertainties about their future prospects and cash generating ability, with potential benefits regarding lower costs of capital (Mazzi et al., 2013; Iatridis and Senftlechner, 2014) and higher relevance of these items in the market (Baboukardos and Rimmel, 2014). However, previous literature has also documented reduced levels of compliance with disclosure requirements (Carlin et al., 2010; Carlin and Finch, 2011; Guthrie and Pang, 2013; Kaiying Ji, 2013; Carvalho et al., 2016a) with negative implications on the quality of information. Moreover, Carvalho et al. (2016b) stresses several reasons for these levels of non-compliance, such as: heterogeneity of disclosures among companies and countries; potential cultural phenomenon impacting on different reporting styles; disclosure of scarce, vague, incomplete, and inadequate information, basically due to the technical complexity surrounding impairment testing; or even reporting 'formula' that has remained virtually unchanged over the years.

Consequently, our findings are of interest to regulatory and supervisory entities in understanding managers' reporting choices to determine how the discretion afforded by accounting standards may be exploited. But most of all, warns them to the crucial need in implementing enforcement mechanisms capable in promoting greater compliance with disclosure requirements, greater transparency, understandability, and usefulness of information. In addition, our results are also of interest to auditors because they can act as enforcement mechanisms with the potential to reduce management opportunistic behaviours and display lowers costs of capital (Iatridis and Senftlechner, 2014).

These findings also contribute to the literature regarding the ongoing debate on the different economic effects related to the recognition of impairment losses in different settings and among different companies.

Finally, as suggested by Khalil and Simon (2014: 100), these results 'implicitly contribute to the debate on the optimal flexibility permitted by standard setting and the argument that tightening the accounting standards and mandating International Financial Reporting Standards are likely to improve reporting quality and reduce opportunistic earnings management'. Therefore, these results can inform recent endeavours promoted by regulatory entities in debating topics such as goodwill and impairment test, such as the recent European Financial Reporting Advisory Group's Discussion Paper *Goodwill and Impairment test: can it be improved?*

Future research may consider the analysis of impairment losses recognition patterns after the transition period to SNC and assess if managers present, or not, opportunistic behaviours. Larger samples may also be used and other research settings may also include European countries that have recently changed their financial reporting institutional logics and accounting frame of reference.[1]

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Table 1 – Differences in the accounting treatment of impairment of assets under SNC and POC

NCRF	SNC	POC
NCRF 12 (Impairment of Assets	Impairment loss: difference between the carrying amount of an asset and its recoverable amount. Recoverable amount is the highest of the following values: fair value less selling costs or value in use. Impairment tests should be made annually. Impossibility to test the impairment of an individual asset: assessment of the recoverable amount of the cash-generating unit. Impairment tests on goodwill should be made annually. Reversals of impairment losses are not permitted. Disclosures are required.	Whenever property, plant or equipment assets or even intangible assets are overvalued they should be subject to an exceptional depreciation/amortization, if the value of that reduction is foreseen as permanent. Any methodologies are proposed. The period to test impairment is not established. No further disclosures are required.
NCRF 18 (Inventories)	Inventories are measured at the lower of the cost and net realizable value. Replacement cost should be used in case of impairment losses in goods acquired for production. Disclosures are required.	Inventories are measured at the lower of cost and market price. Market price is one of the two values: - Net realizable value (goods for sale). - Replacement cost (goods acquired for production).
NCRF 27 (Financial Instruments	Accounts receivable: - Impairment loss: difference between the carrying amount and the current value of cash-flows deducted at the effective interest rate of the asset. Equity instruments: - If measured at cost. - Impairment loss: difference between the carrying amount and the best estimate of the asset's fair value.	Accounts receivable: - Collecting risks should be recognized. Other financial instruments: - Both financial instruments and short-term negotiable funds were measured at the lower of cost or market price.
The NCRF 8 (Non-Current Assets Held for Sale and Discontinued Operations), NCRF 11 (Investment Property), NCRF 13 (Interests in Joint Ventures and Investments in Associates), NCRF 14 (Business Combinations), NCRF 15 (Investments in Subsidiaries and Consolidation), and NCRF 16 (Exploration for and Evaluations of Mineral Resources) refer that impairment assets are dealt by NCRF 12 (Impairment of Assets).		

Table 2 – Literature on the impact of IAS/IFRS and IAS/IFRS adapted standards adoption in Portugal

Paper	Objective	Main findings
Panel A: Portuguese studies on IFRS adoption		
Guerreiro (2006)	Determinants of disclosure about IFRS adoption: transition period	Larger companies, commercially internationalised, audited by Big4 auditing firms, and with lower leverage report more information.
Morais e Curto (2008)	Impact f IFRS adoption on financial information quality	After the adoption of IFRS companies improved their earnings quality. The value relevance decreased with the adoption of IFRS.
Guerreiro et al. (2008)	Level of preparedness to adopt IFRS	Low levels of preparedness. Larger companies with higher levels of commercial internationalisation, and audited by Big4 auditing firms, display higher levels of preparedness.
Guerreiro et al. (2012a)	How institutional pressures influence decision to adopt IFRS voluntarily	Companies are willing to change their financial reporting institutional logic if it benefits them. The response to apply IFRS was largely predictable by virtue of the inherent nature and importance of such institutional pressures on them.
Panel B: Portuguese studies on SNC adoption		
Guerreiro et al. (2012b)	Level of preparedness to adopt SNC	Low levels of preparedness. Organisational resistance to changes in the regulatory environment. Institutional factors had a positive influence on the degree of preparedness.
Guerreiro et al. (2015)	Understand the institutional change processes when a country uses adapted IFRS	Evolving socio-economic and political context facilitated the adoption process. At the organisational field level, national professional and business associations shaped the criteria established at the political and economic level. At the organisational level, some accountants maintained structures of meaning associated with previous accounting system.
Martins et al. (2014)	Factors of disclosure compliance with NCRF 18 (Inventories)	Older companies with more liquidity and lower profitability presented the highest level of compliance with SNC's accounting standard NCRF 18 (Inventories).
Oliveira et al. (2015a)	Comparability of fair value-based valuation criteria for biological assets after SNC adoption	Market values for dairy production of animals are inconsistent, reducing comparability level.
Oliveira et al. (2015b)	Examines the qualitative impact of the first-time adoption of SNC	SNC adoption led to less conservative accounting practices suggesting that cultural aspects and country enforcement regimes did not influence the adoption of SNC.
Botelho et al. (2015)	Factors of disclosure compliance with NCRF 7 (Fixed Assets)	Older companies with lower levels of foreign activity comply more with SNC's accounting standard NCRF 7 (Fixed Assets). The type of auditing firms also influenced the compliance level.

Table 3 – Studies on the effects of write-offs and goodwill impairment decisions

Paper	Country	Objective	Main Findings
Panel A: Studies concerning write-offs decisions			
Strong and Meyer (1987)	USA	Understands how operating/ financial environment influences write-down decisions	The strongest firm is more aggressive in recognizing write-downs on an ongoing basis. The poorest performing firms avoid write-downs due to operating losses, to avoid technical violations of debt covenants or to delay recognition of tax losses carry forwards until profitability is restored. A change in senior management influences a write-down decision.
Elliot and Shaw (1988)	USA	Analyses of the earnings performance and the return behaviour from a long-term and a short-term perspective	Firms disclosing large discretionary write-offs are larger than other firms in their industries and more leveraged. They substantially underperform their industries in the years preceding and including the write-off year in terms of ROA and ROE. These performances are associated with significantly lower security returns in periods three years before, coincident with, and eighteen months following the announcement of the write-off.
Zucca and Campbell (1992)	USA	Economic/financial consequences of discretionary accruals	Majority of firms write-down their assets in a period of already below normal earnings (big bath). A quarter of the companies write-down their assets with other gain or unusual high earnings (income smoothing). Write-downs are used to manage earnings. No significant evidence of positive stock market reaction to the write-down announcement.
Francis et al. (1996)	USA	Analyses if manipulation or impairment drives write-offs	Both factors are important (manipulation and impairment factors). Managerial incentives do not explain inventory and PPE write-offs, but play a substantial role in explaining discretionary goodwill write-offs and restructuring changes. Inventory write-offs are seen as negative news but restructuring charges as good news.
Rees et al. (1996)	USA	Analyses if firms systematically manage earnings in the year of the write-down, considering abnormal returns.	Management acts opportunistically in the year of the write-down to improve future years' reported earnings. Firms have experienced a permanent shift in their accrual balances in the write-down year.

Table 3 – Studies on the effects of write-offs and goodwill impairment decisions (cont.)

Paper	Country	Objective	Main Findings
Riedl (2004)	USA	Characteristics of write-offs before and after SFAS 121.	There is a higher association between write-offs and big-bath reporting behaviour after the standards implementation. This reflects more opportunistic reporting by managers, rather than the provision of their private information.
Deming (2007)	China	Analyses if companies manipulate earnings by the impairment of assets	Economic factors impact on reported impairment assets. Listed firms with negative earnings have taken a big bath after controlling for economic effects.
Spear and Taylor (2011)	USA	Empirical evidence of asset write-downs between 2001-2008	Under-performing firms tend to take larger write-downs. Frequent write-downs take place during periods of economic recession.
Siggelkow and Zulch (2013)	Germany	Factors influencing write-off decisions	Negative association between write-offs and overall firm performance. Strong relation between write-offs and high earnings (income smoothing). No evidence is found for other capital market motives (big bath, management changes, earnings-based compensation and leverage). German managers intend to influence tax payments and potential lenders.
Chao and Horng (2013)	Taiwan	Examines whether managers use discretionary write-offs and abnormal accruals to reach targets and how corporate governance mechanisms react to such opportunistic behaviour	Firms with larger discretionary write-offs have lower discretionary accruals. Both these earnings management tools are partial complements for earnings management and their magnitudes are determined jointly. Discretionary write-offs and abnormal returns are more associated among weakly governed firms, corporate governance constrains management discretionary behaviour.
Alves (2013a)	Portugal	Investigates if IAS 36 reduces the magnitude and restricts the timing of reporting asset impairment, and analyses its relation with audit quality	IAS 36 does not affect the magnitude of the reported assets impairment. Impairment firms engaged in either "big bath" or "income smoothing" behaviour. Firms audited by Big4 firms take significantly more impairments than firms audited by non-Big4. When there are incentives to under-report earnings the likelihood of taking an assets impairment will increase more for firms audited by non-Big4.
Khalil and Simon (2014)	Egypt	Examines whether the contracting incentives and income smoothing can explain accounting choices	Contracting incentives explain little variation in discretionary accruals. Managers are likely to smooth the reported earnings by managing the accrual component to reduce its fluctuation by increasing (decreasing) earnings when they are low (high).

Table 3 – Studies on the effects of write-offs and goodwill impairment decisions (cont.)

Paper	Country	Objective	Main Findings
Panel B: Studies concerning goodwill impairment decisions			
Jordan and Clark (2004)	USA	Analyses if goodwill impairment charges in the year of adoption of SFAS 142 is related to the big bath	Companies recording goodwill impairment charges possessed significantly lower earnings and also experienced a significantly higher rate of negative earnings. In the previous year both companies reported similar earnings levels and rates.
Sevin and Schroeder (2005)	USA	Examines whether the provisions of SFAS 142 allow for big bath practices and the influence of firm	Companies use SFAS 142 to engage in earnings management. Small firms experienced a significant greater negative impact and were much more likely than large firms to take big bath charges.
Beatty and Weber (2006)	USA	Examines SFAS 142 adoption decisions and the economic incentives	Firm's debt contracting, bonus, turnover, and exchange delisting incentives affect their decisions to accelerate or delay these charges.
Jordan et al. (2007)	USA	Analyses the reporting of goodwill, the presence of earnings management, and its persistence in the future	Management selectively chose 2002 to recognize large impairment losses. After 2002, impairment losses continued as big bath earnings management behaviour.
Master-Stout et al. (2008)	USA	Examines the association between the goodwill impairment charges and the tenure of CEO	Goodwill impairment is recognized when CEO are in office less than 3 years.
Lapointe-Antunes et al., (2008)	Canada	Investigates if reporting incentives and constraints are associated with the magnitude of transitional goodwill impairment losses	Firms have an incentive to overstate and understate transitional goodwill impairment losses. Educational background and independent audit committee constrain managerial opportunism.
Godfrey and Koh (2009)	USA	Examines whether goodwill impairment write-offs reflect firm's investment opportunities during the first years of US goodwill impairment accounting regime	Impairment write-offs are negatively associated with firm's underlying opportunities. These charges are also associated with leverage, size, and return on assets.
Jahmani et al. (2010)	USA	Analyses if companies used SFAS 142 to manage earnings	Companies manage the volatility of earnings by avoiding taking goodwill impairment losses to avoid its exacerbation.

Table 3 – Studies on the effects of write-offs and goodwill impairment decisions (cont.)

Paper	Country	Objective	Main Findings
AbduGhazaleh et al. (2011)	UK	Examines the use of discretion in determining goodwill impairment losses and if this discretion reflects opportunistic reporting by managers or the provision of their private information	Managers use discretion in the reporting of goodwill impairment losses. These charges are associated with CEO change, income smoothing, and big bath behaviours. These charges are associated with governance mechanism which suggests the argument that they do not behave opportunistically.
Lee and Yoon (2012)	US	Examines the effect of SFAS 142 on the informativeness of earnings in terms of prediction of future operating cash flows and earnings persistence	Earnings prediction of future operating cash flows and earnings persistence has improved after the enactment of SFAS 142, basically among firms with high levels of discretionary accruals.
Alves (2013b)	Portugal	Analyzes if companies use goodwill impairment losses to manage earnings	Goodwill is significantly positively related to earnings management. IAS36 provides managers with discretion for goodwill write-off.
Iatridis and Senftlechner (2014)	Austria	Investigates de relationship between goodwill and cost of capital	Companies that have carried out goodwill impairment tend to display higher cost of capital. But those that report goodwill and are audited by a Big4 auditor tend to display lower cost of capital.
Bepari and Mollik (2015)	Australia	Analyzes the effect of audit quality on firms' compliance with IFRS for goodwill impairment testing and disclosure	Compliance level is different between firms audited by Big4 and non-Big4 firms. Auditing Committee member's accounting and finance backgrounds are positively associated with compliance level.
Jordan and Clark (2015)	Canada	Examines the relation between goodwill impairments and opportunistic behaviour	Goodwill impairment charges are not being recorded opportunistically to take big baths but to provide relevant information to financial users.
Panel C: Studies the degree of compliance with disclosure requirements			
Carlin et al. (2010)	Singapore	Assess the degree of compliance with disclosure requirements of IAS36	Poor compliance regarding disclosures on cash-generating units definition, goodwill allocation and assumptions to estimate cash-generating units recoverable amounts.
Carlin and Finch (2011)	Australia	Analyses goodwill impairment testing practices and compliance with disclosure requirements of IFRS	Systematic non-compliance with disclosure requirements of IFRS goodwill impairment testing by the largest listed Australian firms.

Table 3 – Studies on the effects of write-offs and goodwill impairment decisions (cont.)

Paper	Country	Objective	Main Findings
Guthrie and Pang (2013)	Australia	Examines goodwill reporting practices from 2005 to 2010 and explores the level of compliance with disclosure requirements regarding impairment testing	Compliance with the standards' goodwill allocation requirements generally improved, but there was non-compliance for all reporting periods.
Kaiying Ji (2013)	Australia	Investigates firms are delaying or avoiding goodwill impairment	Evidence of delayed and avoided goodwill impairment.
Carvalho et al. (2016a)	Portugal	Investigate the magnitude of goodwill recognised in business combinations during 2005 to 2009 by Portuguese listed companies and analyses the level of compliance with the main disclosure requirements of IFRS 3.	The amounts of goodwill are highly material, but the value of identifiable intangible assets in those acquisitions is very low. There is a reduced level of compliance with the disclosure requirements of IFRS 3.

Table 4 – Definition and expected signal for independent variables

Variables	Measurement	Predicted Signal
Size	Total assets$_{t-1}$ (Million Euros)	+
Profitability	Return on assets = Pre-impairment losses & tax earnings$_{t-1}$ / Total assets$_{t-1}$	?
	Earnings growth rate = (Pre-impairment losses & tax earnings$_{t}$ - Pre-impairment losses & tax earnings$_{t-1}$)/Pre-impairment losses & tax earnings$_{t-1}$	?
Leverage	Debt ratio = Total liabilities$_{t-1}$ / Total assets$_{t-1}$	?
Tax measurement criteria	Dummy variable = 1 if the company adopts tax measurment criteria to assess impairment losses, and 0 otherwise	?
Management compensation	Dummy variable = 1 if company's ownership structure is private, and 0 otherwise.	?

Table 5 – Descriptive statistics of the dependent and independent variables

Variables	Measurement	N	Mean	Minimum	Maximum	Std. Deviation
Panel A: Continuous variables						
CIIL	Index	43	1.979	0.000	40.945	7.012
Size	Million Euros	43	308.946	0.555	2233.138	463.804
Return on assets	Ratio	43	0.014	-0.324	0.442	0.139
Earnings growth rate	Ratio	43	0.369	-1.288	3.762	1.042
Leverage	Ratio	43	1.039	0.090	5.412	0.935
Panel B: categorical variables	*Dummy*		*Frequency*	*Percentage*		
Tax measurement criteria	= 1	43	4	9%		
	= 0		39	91%		
Management compenssation	= 1	43	23	54%		
	= 0		20	46%		

Definiton of variables: CIIL = comparability index for impairment losses; Size = total assets$_{t-1}$; Leverage = total liabilities$_{t-1}$ / total assets$_{t-1}$; Return on assets = pre-impairment losses & tax earnings$_{t-1}$ / total assets$_{t-1}$); Earnings growth rate = (pre-impairment losses & tax earnings$_t$ - pre-impairment losses & tax earnings$_{t-1}$) / pre-impairment losses & tax earnings$_{t-1}$; Tax measurement criteria = 1 if the company uses tax measurement criteria to assess impairment losses, and 0 otherwise; Management compensation = 1 if company's ownership is private, and 0 otherwise.

Table 6 – Descriptive statistics of the raw variables

Raw variables	Measurement	N	Mean (median) values		Wilcoxon test	
			POC	SNC	Z	P-value (2-tailed)
Total Assets	Million Euros	43	411.399 (83.627)	308.946 (68.026)	-0.941 b	0.347
Total Liabilities	Million Euros	43	464.018 (80.275)	398.248 (68.026)	-1.257 b	0.209
Equity	Million Euros	43	-18.481 (14.494)	-88.794 (12.785)	-0.292 b	0.771
Pre-impairment losses & tax earnings	Million Euros	43	-7.961 (0.452)	-9.719 (1.007)	-1.501 c	0.133
Impairment losses	Million Euros	43	0.236 (0.032)	2.110 (0.036)	-0.573 c	0.567

[b] Based on positive ranks

[c] Based on negative ranks

Table 7 – Differences on average values of comparability index

Variables	N	CIIL	Mann-Whitney U test	
		Mean (median) values	Z	P-value (2 tailed)
Tax measurement criteria				
Yes	4	10.886 (1.299)	-1.309	0.211
No	39	1.065 (0.144)		

Definiton of variables: CIIL = comparability index for impairment losses; Tax measurement criteria = 1 if the company uses tax measurement criteria to assess impairment losses, and 0 otherwise.

Table 8 – Profile of companies with high (low) impact of impairment losses

Variables	CIIL mean values		Mann-Whitney U test	
	High Impact N=5	Low Impact N=38	Z	Exact Sig. [2*(1-tailed Sig.)]
Size (Total assets t-1)	518.910	281.319	-0.947	0.364
Total liabilities (t-1)	1,047.743	312.788	-0.871	0.405
Equity (t-1)	-528.833	-30.894	-0.834	0.427
Pre-impairment losses & tax earnings (t-1)	-43.750	-2.849	-1.515	0.138
Impairment losses (t-1)	-0.689	2.478	-1.251	0.226
Return on assets	-0.060	0.019	-1.478	0.149
Earnings growth rate	0.357	0.371	-0.720	0.495
Leverage	1.241	1.013	-0.834	0.427
Tax measurement criteria (=1)	2	2		
Management compensation (=1)	2	21		

Definiton of variables: CIIL = comparability index for impairment losses; Size = total assets$_{t-1}$; Leverage = total liabilities$_{t-1}$ / total assets$_{t-1}$; Return on assets = pre-impairment losses & tax earnings$_{t-1}$ / total assets$_{t-1}$); Earnings growth rate = (pre-impairment losses & tax earnings$_t$ - pre-impairment losses & tax earnings$_{t-1}$) / pre-impairment losses & tax earnings$_{t-1}$; Tax measurement criteria = 1 if the company uses tax measurement criteria to assess impairment losses, and 0 otherwise; Management compensation = 1 if company's ownership is private, and 0 otherwise.

Table 9 – Correlation matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Continuous variables							
(1) CIIL	1.000						
(2) Size	0.312 **	1.000					
(3) Return on assets	-0.360 **	-0.231	1.000				
(4) Earnings growth rate	0.091	-0.144	0.145	1.000			
(5) Leverage	0.322 **	0.372 **	-0.661 ***	-0.153	1.000		
Panel B: Categorical variables							
(6) Tax measurement criteria	0.202	-0.123	-0.039	0.058	-0.194	1.000	
(7) Management compensation	-0.191	-0.278	0.402 ***	0.051	-0.368 **	-0.183	1.000

Correlation is significant at the ***0.01 level, **0.05 level, and 0.1 level (2-tailed)

Table 10 – Regression model

Variables	Predicted Sign	CIIL (N=43)				
		B	Std. Error	t		Value inflated factors
Intercept		-0.157	0.204	-0.771		
Size	+	0.236	0.137	1.715	††	1.221
Return on assets	?	-0.168	0.174	-0.965		1.954
Earnings growth rate	?	0.155	0.127	1.219		1.038
Leverage	?	0.228	0.188	1.213		2.293
Tax measurement criteria	?	1.051	0.460	2.284	**	1.234
Management compensation	?	0.188	0.277	0.677		1.318
Model Fit:						
F				2.775	**	
R^2				0.316		
R^2 Adjusted				0.202		
Durbin-Watson				2.161		

Notes: Significance at ***0.01 level, **0.05 level, and *0.1 level (2-tailed)

Significance at †††0.01 level, ††0.05 level, and †0.1 level (1-tailed)

Definiton of variables: CIIL = comparability index for impairment losses; Size = total assets$_{t-1}$; Leverage = total liabilities$_{t-1}$ / total assets$_{t-1}$; Return on assets = pre-impairment losses & tax earnings$_{t-1}$ / total assets$_{t-1}$); Earnings growth rate = (pre-impairment losses & tax earnings$_t$ - pre-impairment losses & tax earnings$_{t-1}$) / pre-impairment losses & tax earnings$_{t-1}$; Tax measurement criteria = 1 if the company uses tax measurement criteria to assess impairment losses, and 0 otherwise; Management compensation = 1 if company's ownership is private, and 0 otherwise.

[1] According to Cooke (1998, p. 214) the main "advantage of normal scores is that resulting tests have exact statistical properties because a) significance levels can be determined, b) the F and t-test are meaningful and c) the power of F and t-tests may be used. In addition, the regression coefficients derived using normal scores are meaningful". Finally, the normal scores approach has the advantage of overcoming problems of non-normal dependent variables, monotonicity and non-linearity.