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THE INFORMATION CONTENT OF TAX LOSS CARRYFORWARDS – IAS 12 VS. VALUATION ALLOWANCE

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Abstract

This is the first study that analyzes the predictive ability of deferred tax information under IFRS. I examine whether deferred taxes provide information about future tax payments and future performance, using a German sample of IFRS firms. The focus on tax loss carryforwards enables a separation of the two relations, testing on the one hand, the relation between recognized deferred tax assets and future tax payments and on the other hand, the relation between the non-usable part of tax losses and future earnings. I find significantly negative coefficients for both deferred tax items, indicating that higher recognized deferred tax assets are associated with lower future tax payments and higher non-usable tax loss carryforwards with lower future performance. Additionally, I compare the tax accounts' predictive ability for a matched German and US sample and find no significant differences between firms reporting under IFRS and US-GAAP. Taken together, the evidence suggests that deferred tax items for tax loss carryforwards reported under IFRS provide useful information about future outcomes and that this predictive ability does not differ significantly from firms reporting under US-GAAP.

Keywords: deferred taxes, IAS 12, valuation allowance, tax loss carryforwards, tax footnote.

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1. Introduction

There is an ongoing debate about the reporting of deferred taxes under International Financial Reporting Standards (IFRS).[1] One of the key issues in the discussion is to align the recognition of deferred tax assets under the International Accounting Standard (IAS) 12 to the conceptually different valuation allowance (VA) approach under US Generally Accepted Accounting Principles (US-GAAP) (e.g., IASB, 2009; EFRAG/FRC, 2013). The VA concept differs from the current IAS 12 approach particularly regarding the non-usable part of the deferred tax assets. The amount is recognized (as a contra-asset) under US-GAAP while it is a footnote disclosure under IFRS.[2] To assess possible costs or benefits of adopting the VA concept under IAS 12, it is important to examine whether the usefulness of the deferred tax information could be affected by these conceptual differences. Therefore, in the first place, it is necessary to analyze whether deferred taxes under the current IAS 12 provide useful information. This question is unresolved to date - while practitioners often criticize the informative value of deferred taxes and call for additional disclosure requirements (e.g., EFRAG/FRC, 2011), evidence on the usefulness of the deferred tax information reported under IFRS is missing.

To close this gap in the literature, I investigate in this study whether deferred tax information reported under IAS 12 is useful. Building on prior literature that examines tax information under other accounting standards, I identify two types of useful information that can be derived from deferred taxes: information about (1) future tax payments and (2) future pretax earnings. Studies on the first relation (1) generally support the notion that deferred taxes are informative about future tax payments (Guenther and Sansing, 2000, 2004; Dotan, 2003; Laux, 2013).[3] Regarding future pretax earnings (2), the literature tests and finds predictive ability particularly for the non-usable part of deferred tax assets (Gordon and Joos, 2004; Herbohn et al., 2010; Dhaliwal et al., 2013), e.g. the VA under US-GAAP. While prior evidence on relation (1) and (2) is provided for deferred taxes reported under US-GAAP, Australian GAAP, or UK-GAAP, it is unexplored whether tax information reported under IFRS is equally informative.

However, due to the conceptual differences between IAS 12 and other international standards, inferences from prior studies cannot readily be applied to IFRS. Particularly, whether the non-usable deferred tax assets are recognized in the balance sheet (US-GAAP) or disclosed in the tax footnote (IAS 12) can have

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[1] Only recently, the International Accounting Standards Board (IASB) issued amendments to IAS 12 regarding the recognition of deferred tax assets for unrealized losses on debt instruments (IASB, 2016).

[2] Deferred tax assets under IAS 12 shall only be recognized to the extent that it is probable that sufficient future taxable profit will be generated against which the temporary differences or unused tax losses can be utilized (IAS 12.24, 12.34). The unused tax losses and deductible temporary differences for which no deferred tax asset is recognized, have to be disclosed in the tax footnote (IAS 12.81 (e)). The US-GAAP Accounting Standards Codification (ASC) 740 follows a different concept: in the first step, deferred tax assets are recognized for the full amount of deductible temporary differences and tax losses. In a second step, deferred tax assets which are probably not useable in the future are 'written off' by a VA. The net recognized deferred tax assets are the same under both concepts but the reporting of non-usable deferred tax assets differs. See Appendix B for a numerical example.

[3] The studies in this strand of literature stress that the predictive ability of deferred taxes can be found only under certain conditions, i.e. if the respective revenue (or expense) is included in GAAP income prior to taxable income. See the literature review in Section 2 for more details.

an important effect on the usefulness of the information. Although the number disclosed in the tax footnote should contain the same information as the recognized VA,[4] the literature indicates that information with the same content can differ with respect to reliability depending on whether it is disclosed or recognized. Schipper (2007) describes different reasons why disclosed information might be less reliable than recognized information. For example, management might take less care in preparing disclosed items (Wiedman and Wier, 1999), or auditors might permit more misstatement in disclosed vs. recognized items (Libby et al., 2006). Building on this stream of literature, prior evidence for the recognized VA cannot necessarily be applied to the disclosed information under IAS 12.

Another difference in deferred taxes under IFRS and non-IFRS standards can be traditional accounting behavior. Kvaal and Nobes (2010, 2012) provide evidence that discretion in accounting choices under IFRS is used to preserve national accounting practices. As management has a considerable level of discretion in the deferred tax recognition, firms in countries in which deferred tax assets traditionally had little relevance under local GAAP might continue with national practice under IFRS by recognizing deferred taxes conservatively.[5] Such conservative recognition can impair the predictive ability of deferred taxes regarding future outcomes.

Taken together, due to conceptual and cultural differences in the recognition of deferred taxes under IAS 12 compared to other standards, specifically US-GAAP, results of prior studies cannot readily be applied to IFRS. Still, considering the ongoing attempts to amend IAS 12, it is of substantial interest whether deferred taxes under the current IFRS provide useful information. Therefore, I examine whether deferred tax information reported under IAS 12 provides useful information about (1) future tax payments and (2) future pretax earnings. Unlike a market value analysis, I do not test market participants' perception but the direct link between deferred tax information and future outcomes to disentangle the two information items that could be derived from deferred taxes. While value relevance studies are important to assess whether market participants price deferred taxes (Graham et al., 2012),[6] they do not provide details about which information exactly can be inferred from deferred taxes. Particularly if tax expense cannot readily be derived from pretax book income due to book-tax differences (Hanlon, 2003), the separate prediction of future pretax earnings and tax expense can help investors to assess firm's future (after-tax) performance. While Chludek (2011b) analyzes the value relevance of deferred taxes under IFRS and finds basically no significant relation between deferred taxes

[4] Considering, that the amount of non-usable tax losses or deductible temporary differences has to be multiplied by the tax rate to be comparable to the VA, representing unusable deferred taxes.

[5] Germany is an example for a historically conservative attitude towards deferred tax assets. For example, before the issuance of the German Accounting Standard (GAS) 10 in 2002, the recognition of deferred tax assets on tax loss carryforwards was not allowed at all.

[6] Yet, Graham et al. (2012) emphasize that market value studies are subject to several weaknesses and that it is not clear, what can be inferred from the results.

and market value, there is (to the best of my knowledge) no evidence on the direct link between deferred taxes and future outcomes under IFRS.[7]

To examine the relation between deferred taxes and (1) future tax payments and (2) future pretax earnings, I do not use aggregate deferred tax amounts but focus on a specific component: deferred tax assets for tax loss carryforwards (TLC). I expect this deferred tax item to be particularly suitable to isolate the relations (1) and (2) for the following three reasons. First, deferred tax assets for TLC "tend to translate more timely into cash flow than the other deferred tax components" (Chludek, 2011b, p. 16). Hence, the concern that deferred taxes are not associated with future tax payments because they are recurring and do not reverse (e.g., Amir et al., 1997) is mitigated in the case of TLC. Second, a stream of literature (Guenther and Sansing, 2000, 2004; Dotan, 2003; and Laux, 2013) identifies certain conditions under which deferred taxes are associated with future tax payments: the respective revenue (or expense) has to be included in GAAP income prior to taxable income. This distinction is not necessary in the case of TLC. If TLC can be offset in the future, it is apparent that future taxable income will be reduced and no further theoretical distinction has to be made. Third, in line with prior literature, I need information on the unrecognized deferred tax assets to examine the relation with future pretax earnings. While this information is provided by the VA under US-GAAP, the recognition of deferred taxes differs under IFRS and no VA is available.[8] However, IAS 12.81 (e) requires the disclosure of the part of TLC for which no deferred tax asset is recognized. Although this amount is different from the VA as it is disclosed and not recognized, it is the best available measure for the non-usable deferred tax assets and for testing the relation with future performance. In sum, the focus on TLC enables clear theoretical predictions and provides the information necessary to test the relation between deferred taxes and future outcomes.

Regarding the first future outcome variable (1), I examine the relation between recognized deferred tax assets for TLC and future tax payments. IAS 12 allows the recognition of deferred tax assets only to the extent that management expects a future taxable profit that can be used to offset the underlying TLC. If the TLC are offset in the future, taxable income decreases and tax payments are reduced. Hence, the recognized deferred tax assets should provide information about future tax benefits and I expect to find a negative relation between deferred taxes for TLC and future tax payments. To address the second outcome variable (2), I analyze the relation between non-usable TLC and future performance. The management decision (based on the IAS 12 requirements) not to recognize deferred taxes for part of the TLC can indicate that not sufficient taxable income is expected in the future.[9] Although the strength of the relation between taxable income and book income is debatable (e.g., Hanlon, 2003), expected taxable

[7] The lack of value relevance found by Chludek (2011b) is in contrast to most of the prior (mainly US-based) literature, generally documenting value relevance of deferred taxes (e.g. Ayers, 1998; Amir and Sougiannis, 1999). This evidence further supports the notion that results of prior studies are not applicable in an IFRS setting.

[8] See Appendix B for a description of the differences in the deferred tax recognition and a numerical example.

[9] Non-usable TLC can also result from legal restrictions like minimum taxation or loss offsetting restrictions.

income can provide incremental information about managements' private earnings expectations (e.g. Herbohn et al., 2010; Dhaliwal et al., 2013). Therefore, I expect a negative relation between the non-usable TLC and future performance.

I examine a German sample with mainly hand-collected data from the tax footnote over the period 2010 to 2012. The sample period starts after the financial crisis years as the crisis made the prediction of future taxable income for the recognition of deferred taxes difficult for managers. A German setting facilitates establishing a direct link to the results of prior literature as Chludek (2011b) analyzes the value relevance of deferred taxes under IFRS also with a German sample.

Controlling for current tax payments, I find a significant negative relation between recognized deferred tax assets for TLC and future tax payments, indicating that the deferred tax assets are informative about future tax reductions due to loss offsetting. This result suggests that deferred tax information is useful to predict future tax expense and cash taxes paid, incremental to current tax payments. Further, the disclosed non-usable TLC have a negative and significant association with future pretax earnings and cash flows, incremental to current performance. This finding indicates that unusable TLC are an indicator of low future earnings. Similar to findings in the prior literature, the relations are statistically significant but of small economic magnitude. In sum, the results indicate that deferred tax information for TLC prepared under IFRS is useful to predict future outcomes, suggesting that disclosure instead of recognition and cultural peculiarities do not impair the predictive ability of deferred taxes.

For a closer examination of the potential differences between IAS 12 and ASC 740, I perform a second set of tests in which I analyze whether the informative value of deferred taxes under IFRS differs from the predictive ability of deferred taxes under US-GAAP. Therefore, I compare the German IFRS sample to a matched sample of US firms and examine whether differences in the relation between deferred tax information and future outcomes exist. I pool both samples and interact the deferred tax variables with a country identifier. I find insignificant coefficients for both interaction terms, indicating that the relation between recognized (unrecognized) deferred tax assets for TLC and future tax payments (performance) does not differ significantly between the German and the US sample. This result supports the finding of my main tests that the conceptual differences between the standards do not affect the predictive ability of deferred tax information for TLC. However, the comparison might be affected by differences in the data between the German and the US sample, resulting from a loss of observations during the hand-collection after the matching process. Therefore, results of the interaction regressions should be interpreted with caution.

This study makes at least three important contributions. First, given the ongoing debate about amendments to the accounting for income taxes under IFRS, the informative value of deferred tax assets under the current IAS 12 is of considerable interest for standard setters and other related parties. This study addresses in particular the suggestions to replace the existing concept of deferred tax recognition

by the two-step approach of US-GAAP, e.g. proposed in the Exposure Draft ED/2009/2 by the International Accounting Standards Board (IASB, 2009).[10] My results help to evaluate whether a change from the current recognition process under IAS 12 to the approach used under ASC 740 could be expected to have benefits for financial statement users. Finding that TLC deferred tax items reported under IFRS provide useful information about future outcomes and that this predictive ability does not differ significantly from firms reporting under US-GAAP, my results suggest that a switch to the two-step recognition approach might add little value beyond convergence aspects.

Second, I add to the existing research on the predictive ability of deferred tax information by examining the TLC component. This enables me to establish clear theoretical expectations and to separate the two basic information components included in deferred tax asset information. Based on these predictions, I am the first to examine whether the findings of prior non-IFRS research can be applied to deferred taxes under IFRS. Despite conceptual differences and possible influences of national accounting patterns, my findings suggest that the predictive ability of deferred tax information for TLC reported under IFRS is consistent with prior evidence for other standards, particularly US-GAAP.

Third, my results should be of interest for users of financial statements who make predictions about future tax payments and earnings. The results of Chludek (2011b) indicate that, currently, market participants do not fully use or understand the information that can be derived from deferred taxes. My findings suggest that recognized (un-recognized) deferred taxes for TLC provide information about future tax payments (performance), incrementally to current tax payments (performance). Given this evidence, these items should be considered when building expectations about future outcomes.

The reminder of this paper proceeds as follows. Section 2 discusses prior research and develops the hypotheses. Section 3 describes the model development and Section 4 discusses the data. Results are presented in Section 5 and sensitivity tests in Section 6. Section 7 concludes.

2. Prior Research and Hypotheses Development

2.1 Deferred Taxes and Market Value

Several studies analyze whether deferred taxes and the VA reported under US-GAAP convey information that is useful for capital market participants (e.g., Amir et al., 1997; Ayers, 1998; Amir and Sougiannis, 1999; Kumar and Visvanathan, 2003). Further, Chang et al. (2009) examine the value relevance of recognized and unrecognized deferred taxes under Australian GAAP. These studies mainly find evidence for the value relevance of deferred taxes and the VA. However, there is, to the best of my knowledge, only one study on the value relevance of deferred taxes under IFRS. Chludek (2011b) analyzes a German sample of IFRS-reporting firms and finds in general no value relevance of deferred

[10] The IASB got largely negative feedback from constituents and decided not to finalize ED/2009/2. However, the part of the exposure draft related to the VA was supported by around 80% of the comment letters (Meyer et al., 2010). Accordingly, the VA concept continues to be an issue in further IAS 12 revision projects, e.g. recently respondents to a discussion paper suggested switching to the VA concept (EFRAG/FRC, 2013, p. 15).

tax information. She attributes this lack of relevance to uncertainty about the reversal and as a result the unclear cash flow implications of deferred taxes. In additional tests, Chludek (2011b) finds that deferred tax assets for TLC reverse more timely than other deferred tax components. However, she does not find a significant relation between deferred taxes for TLC and market value in her main analysis.[11]

The value relevance of deferred tax information is an indicator of forward-looking information but it does not differentiate between pretax earnings and tax expense expectations. Yet, the separation of both components can be of great interest, particularly if tax payments cannot easily be derived from pretax book income (Hanlon, 2003). The prediction of future tax payments can be very challenging (Jacob and Schütt, 2013) and investors should be interested in information that helps to forecast future tax expense. Further, deferred tax information can be incrementally useful to predict future earnings, beyond other common predictors (Dhaliwal et al., 2013). One way to decompose the value relevance is to analyze the relation between deferred tax information and (1) future tax payments and (2) future performance separately. While evidence on these relations is missing for deferred taxes reported under IFRS, a number of studies analyze either of the relations for deferred taxes under other accounting standards.[12]

2.2 Deferred Taxes and Future Tax Payments

The value relevance of deferred taxes is often interpreted as deferred taxes affecting future tax payments (e.g., Chang et al., 2009; Amir and Sougiannis, 1999). In a similar vein, a strand of literature attributes the lack of value relevance to missing tax cash-flow implications (e.g. Amir et al., 1997; Chludek, 2011b). However, only few studies explicitly test whether deferred taxes are related to realized future taxes. Chludek (2011a) examines the relation between deferred taxes and future tax cash flows. She finds only weak and limited evidence for the predictive ability of deferred tax assets and liabilities. Laux (2013) empirically tests theoretical predictions from Guenther and Sansing (2000, 2004) and Dotan (2003), where he distinguishes between temporary differences included in GAAP income first or in taxable income first. Laux (2013) predicts and finds that only those deferred taxes are associated with future tax payments that are included in GAAP income prior to taxable income. Additionally, his results indicate that the relation is not affected by whether and when the deferred taxes reverse. In a further test, Laux (2013) examines the relation between the deferred tax categories and market value. He finds a significant and positive relation for deferred taxes included in GAAP income first.

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[11] In a subsample analysis, Chludek (2011b) partly finds a negative and significant relation between deferred taxes for TLC and market value for loss-reporting firms while she does not find significant results for profitable firms.

[12] Cheung et al. (1997) is the only study that examines both relations, (1) and (2). Their findings indicate that both, the prediction of future tax payments and future cash flows, is improved when deferred tax information is taken into account. However, Cheung et al. (1997) use aggregate deferred taxes which represent net balance sheet numbers, making it hard to draw inferences about the relation between deferred taxes and future tax payments (and cash flows) from their findings. Further, the study is criticized for having a number of shortcomings (Chludek, 2011a, p. 6). Amir and Sougiannis (1999) also discuss both aspects but test them only implicitly. They infer a relation between deferred taxes from carryforwards and future earnings from analysts' earnings prediction and a relation between deferred taxes from carryforwards and future tax savings from a positive market valuation.

The theoretical work of Guenther and Sansing (2000, 2004) and Dotan (2003) and the empirical study of Laux (2013) suggest the conditions under which deferred taxes provide information about future tax payments. However, it is unexplored whether this relation also exists for deferred taxes under the conceptually different IAS 12.

2.3 Un-Recognized Deferred Taxes and Future Performance

Legoria and Sellers (2005) examine the ability of deferred tax information to predict future cash flows, comparing disclosure under SFAS 109 and its predecessor, Accounting Principles Board Opinion (APB) No. 11. They expect and find that the separate recognition of deferred tax assets, liabilities, and the VA enhances the prediction of cash flows relative to reporting an aggregated deferred tax measure. More precisely, Legoria and Sellers (2005) find a significant positive association of future cash flow with the level of deferred tax assets and a significant negative association with the level of the VA. Similarly, Jung and Pulliam (2006) find that changes in the VA are (significantly) negatively associated with future income. However, for future cash flows they do not find a significant relation after controlling for current year cash flows. Christensen et al. (2008) analyze whether a larger-than-expected VA resulting from non-cash charges is used to manage earnings and whether the VA is informative of future operating performance. Their findings suggest that the VA is, if anything, used to meet or beat analyst forecasts and that managers use private information about future performance to establish a VA. Dhaliwal et al. (2013) test whether the VA is related to the persistence of accounting losses. Analyzing a sample of loss firms, they classify firm-years into different categories, depending on the assumed VA change and the availability of positive taxable income. Dhaliwal et al. (2013) find that the categories provide information about the persistence of losses. Their results are consistent with management using private information about future earnings in recognizing the VA.

In non US-based studies, Gordon and Joos (2004) and Herbohn et al. (2010) examine whether managers determine the amount of unrecognized deferred taxes opportunistically and whether the unrecognized amount is helpful to predict future earnings. Gordon and Joos (2004) analyze firms that report deferred taxes under the U.K. GAAP partial provision method, Herbohn et al. (2010) examine unrecognized deferred tax assets for TLC under the income statement method of Australian GAAP. Both studies find evidence for earnings management with unrecognized deferred taxes as well as for a significant relation between the unrecognized deferred taxes and future earnings. They conclude that earnings management seems not to impose a restriction on the ability of deferred tax information to predict future performance.

In sum, the evidence suggests that deferred tax information (i.e. unrecognized deferred taxes and the VA) has predictive ability for future earnings. Despite the plentiful evidence, there is no study analyzing whether this relation also holds under IFRS. Given the cultural and conceptual differences of the deferred tax recognition under IAS 12 compared to other standards, it is unresolved whether unrecognized deferred taxes reported under IFRS are similarly informative.

2.4 Tax Loss Carryforwards

The results of prior studies indicate that not necessarily all deferred tax items provide useful information. On these grounds, I examine the predictive ability of deferred taxes under IFRS by focusing on a component with a clear theoretical link to future outcomes: tax loss carryforwards. TLC are a suitable component for the following three reasons.

First, according to e.g. Amir et al. (1997), only those deferred tax items convey useful information that reverse timely. Based on the results of the reversal analysis of Chludek (2011b), deferred tax assets on TLC translate more timely into cash flow than all other components of deferred taxes. Therefore, deferred taxes on TLC can be expected to be informative about future tax payments.

Second, another stream of literature suggests that the value of deferred taxes depends on whether the revenue or expense that created the deferred tax is included in taxable income prior to or after GAAP income (Guenther and Sansing, 2000, 2004; Dotan, 2003; Laux, 2013). The separation into these two categories requires detailed information about the single deferred tax components. Gathering this information might be difficult because the IFRS tax footnote is rather company-specific and differs strongly across firms (Raedy et al., 2011; Flagmeier and Müller, 2016). This categorization is not necessary when focusing on TLC. TLC do not affect pretax GAAP income but reduce future taxable income (if usable) and should therefore be an indicator for future tax benefits.

Third, prior research indicates that the unrecognized deferred tax assets are informative about future performance (e.g., Herbohn et al., 2010; Dhaliwal et al., 2013). The VA provides the amount of unrecognized deferred tax assets under US-GAAP but not under IFRS (where no VA is recognized). However, IAS 12.81 (e) requires the disclosure of the TLC for which the firm did not recognize deferred tax assets.[13] Although at least one important difference (described below) between this amount and the VA exists, it is the best available measure for the unrecognized deferred tax assets under IFRS and for testing the relation with future performance. In sum, the focus on TLC allows clear theoretical predictions and provides the necessary information to test the relation between deferred taxes and future outcomes. In line with this notion, a number of prior studies that investigate deferred taxes also focus on TLC (e.g. Amir and Sougiannis, 1999; Herbohn et al., 2010).

2.5 Hypothesis Development

While the prior evidence under non-IFRS standards indicates that deferred taxes or at least certain components provide useful information to predict future tax payments and pretax earnings, there is to date no evidence on this predictive ability for deferred taxes reported under IFRS. Based on prior

[13] IAS 12.81 (e) also requires the disclosure of deductible temporary differences for which no deferred tax assets are recognized. However, as only an aggregate amount is required, it cannot be separated into different categories based e.g. on the categorization of Laux (2013).

literature, I identify at least two reasons why the informative value of deferred tax information might differ under IFRS.

First, conceptual differences exist between the recognition of deferred taxes under US-GAAP and IFRS.[14] While ASC 740 requires the recognition of deferred taxes for the full amount of TLC in a first step and the reduction to the usable part in a second step via the VA, IAS 12 limits the recognition to the usable TLC fraction right from the beginning. Under both concepts, the net recognized amount is the same and should be equally informative of future tax payments. With respect to the unrecognized amount, the two standards differ. The VA under US-GAAP represents the part of the TLC that is not expected to be usable. As the usability depends on future income, a higher VA indicates lower expected earnings. In line with this notion, prior research indicates that the VA is negatively associated with future earnings (e.g., Legoria and Sellers, 2005; Christensen et al., 2008; Dhaliwal et al., 2013).Whether the disclosed non-usable TLC under IAS 12 provide similar information is unexplored so far. Although the item simply has to be multiplied by the applicable tax rate to generate the same information as the VA, there is an important difference between the two items. While the VA is a recognized contra-asset to the deferred tax assets, the amount under IAS 12 is a disclosure in the tax footnote.

The literature indicates that information with the same content can differ with respect to reliability depending on whether it is disclosed or recognized (e.g. Schipper, 2007). While a comprehensive theory on recognition versus disclosure is missing (Schipper, 2007; Choudhary, 2011), a number of archival and experimental studies investigate this issue. Most studies within this strand of research examine whether market participants *perceive* disclosed information to be less reliable than recognized information (e.g. Davis-Friday et al., 2004; Ahmed et al., 2006; Müller et al. 2015). Bratten et al. (2013) provide recent evidence that the perception does not differ if disclosed and recognized items are equally reliable and salient. The *perceived* reliability does not affect my analysis because I test the relation between disclosed/recognized information and future outcomes (still, it might explain the lack of value relevance found by of Chludek, 2011b). However, Schipper (2007) describes different reasons why disclosed information might indeed *be* less reliable. Management as well as auditor behavior can affect the reliability. Among different channels, management might for example take less care in preparing disclosed items (Wiedman and Wier, 1999). Regarding the auditor perspective, Libby et al. (2006) find in an experimental study that auditors permit more misstatement in disclosed amounts than in recognized amounts. Building on this stream of literature, the disclosed information under IAS 12 might be less reliable and therefore less informative about future earnings than e.g. the VA under US-GAAP.

Second, the recognition of deferred tax assets involves a substantial level of management judgement. According to Kvaal and Nobes (2010, 2012), firms use available discretion under IFRS to continue with pre-IFRS local accounting practices. They find systematic national accounting patterns in different IFRS

[14] See Appendix B for a numerical example.

adopting countries. Hence, in countries with a traditionally rather conservative treatment of deferred taxes, firms might stick to this practice by under-recognizing deferred tax assets. Germany is an example for a country with a conservative attitude towards the recognition of deferred tax assets. The prudence principle under local German GAAP generally requires a conservative estimation and treatment of future benefits. Specifically, the recognition of deferred tax assets on TLC was not allowed under German GAAP before the issuance of the German Accounting Standard (GAS) 10 in 2002. Thus, firms might continue to understate the expected future tax savings, resulting in recognized (unrecognized) deferred tax assets that are not useful to predict future tax payments (performance).

In line with the differences between the deferred tax recognition under IFRS and other standards, the results of Chludek (2011b) indicate that deferred taxes under IFRS are not valued by market participants. A possible explanation can be that deferred taxes under IFRS, as opposed to other standards, do not have predictive ability with regard to future outcomes.

In sum, the prior literature on the predictive ability of deferred tax information under other standards and the theoretical characteristics of TLC suggest that the recognized deferred taxes under IFRS should be informative about future tax payments and the non-usable part of TLC should be useful to predict future performance. However, considering the peculiarities of deferred taxes under IFRS and the evidence of Chludek (2011b), the predictive ability of deferred tax information is an unresolved question. I test the relation between recognized (unrecognized) deferred tax assets for TLC and future tax payments (performance) empirically and formulate the following hypotheses:

H1a: *Deferred tax assets for TLC reported under IAS 12 provide information about future tax payments.*

H1b: *Unrecognized deferred tax assets for TLC reported under IAS 12 provide information about future performance.*

In my first set of tests, I investigate whether deferred taxes under IFRS have predictive ability regarding future outcomes. In a second set of tests, I examine if the predictive ability of IFRS tax information differs significantly from the predictive ability of tax information under ASC 740. With regard to the recognized deferred tax assets, no conceptual differences exist but the potential persistence of national accounting patterns might weaken the link with future tax payments under IFRS. Accordingly, I examine the following hypothesis:

H2a: *The relation between deferred tax assets for TLC and future tax payments is different for firms reporting under IAS 12 relative to firms reporting under ASC 740.*

With respect to the unrecognized deferred taxes, differences can result from historically shaped accounting behavior as well as from conceptual differences between the standards. Based on the reliability discussion in the disclosure vs. recognition literature, I expect to find a different association

between the VA and future performance (US-GAAP) than between the non-usable TLC and future performance (IFRS).

H2b: *The relation between unrecognized deferred tax assets for TLC and future performance is different for firms reporting under IAS 12 relative to firms reporting under ASC 740.*

3. Model Development

3.1 Future Tax Payments

To analyze whether deferred tax assets for TLC provide incremental information about future tax payments, I estimate the following regression:

$$TAX_{t+n} = \alpha_0 + \alpha_1 TAX_t + \alpha_2 DTATLC_t + \alpha_3 \sum_k year_k + \varepsilon_t \quad (1)$$

where t denotes year with n ranging from 1 to 2 and ε is the error term. Firm subscripts, i, are suppressed in all models and year-fixed effects are included. In line with prior literature (e.g., Laux, 2013), *TAX* and *DTATLC* are scaled by average total assets. All variables are defined in Table 1.

[Insert Table 1 here]

TAX_{t+n} is represented by two alternate measures: current tax expense (*TXC*) and cash taxes paid (*TXPD*). Given that tax return data is not available, I rely on financial statement based measures as proxies for realized tax payments. Lisowsky (2009) finds that current tax expense and cash taxes paid have high correlations with the actual tax liability. Hence, in line with prior research (e.g., Chludek, 2011a; Laux, 2013), I choose *TXC* and *TXPD* as measures for future tax payments. I obtain both measures from Thomson Reuters' Worldscope database, where available. Values are validated and missing values are filled with hand-collected data from financial statements.

I include TAX_t as the first explanatory variable in the model and expect a positive association with TAX_{t+n}. Having included TAX_t in the model, $DTATLC_t$ measures the incremental information provided by deferred taxes. $DTATLC_t$ represents the deferred tax assets for TLC scaled by average total assets, hand-collected from the tax footnote.[15] In the rare cases where German firms report a VA or a comparable reduction of deferred taxes, I use the net amount. I expect to find a negative association between TAX_{t+n} and $DTATLC_t$ because deferred tax assets for TLC represent future tax savings due to the potential reduction in taxable income when the TLC is offset.

3.2 Future Performance

The second model examines the relation between the non-usable TLC and future performance:

$$PERF_{t+n} = \beta_0 + \beta_1 PERF_t + \beta_2 NUTLC_t + \beta_3 \sum_k year_k + \mu_t \quad (2)$$

[15] Figure 1 Panel A provides an example for a footnote of a German firm and the collected data.

Again, t denotes year with n ranging from 1 to 2, year-fixed effects are included, and μ is the error term. Consistent with Model (1), *PERF* and *NUTLC* are scaled by average total assets. The dependent variable $PERF_{t+n}$ is representing either earnings before tax (*EBT*) or cash flow from operations before tax (*CFO*), which is in line with performance measures of prior literature (e.g. Gordon and Joos, 2004; Herbohn et al., 2010).

The respective measure for $PERF_t$ is included as explanatory variable and expected to have a positive coefficient. To test whether unrecognized deferred taxes have predictive ability regarding future performance incremental to current performance, I include *NUTLC*. The amount is hand-collected from the tax footnote and represents the TLC for which no deferred tax asset is recognized. As non-usable TLC indicate that management expects future income not to suffice to offset the TLC, I expect a negative coefficient for *NUTLC*.

3.3 Comparison of German and US sample

In a further set of tests, I examine whether the predictive ability of deferred tax information differs under IFRS and US-GAAP. To compare the effects, I estimate a pooled regression for both samples and include a country dummy and interaction effects. The *TAX* and *PERF* models are estimated as follows:

$$TAX_{t+n} = \gamma_0 + \gamma_1 TAX_t + \gamma_2 DTATLC_t + \gamma_3 US + \gamma_4 TAX_t*US + \gamma_5 DTATLC_t*US + \gamma_6 \sum_k year_k + \varsigma_t \quad (3)$$

$$PERF_{t+n} = \delta_0 + \delta_1 PERF_t + \delta_2 VA_t + \delta_3 US + \delta_4 PERF_t*US + \delta_5 VA_t*US + \delta_6 \sum_k year_k + \zeta_t \quad (4)$$

The country dummy *US* equals one if the observation is in the US-sample and zero for the German sample firms. For the US sample, the *TAX* and *PERF* variables are obtained from the Compustat database, *DTATLC* and *VA* are hand-collected from the tax footnote.[16] For pooling both samples in one regression, different steps are necessary to make the data comparable. First, to align the currencies, I convert all values to US-Dollar.[17] Second, for the US sample, I net the deferred tax assets for TLC with the VA to get the complement to the recognized deferred tax assets under IAS 12. If disclosed, I use the part of the VA that is recognized for TLC. Otherwise, I use the total VA because prior literature indicates that the VA is mainly attributable to TLC (Miller and Skinner, 1998; Amir et al., 1997; Laux, 2013).[18] Third, to receive a comparable ground with respect to the disclosed amount of non-usable TLC under IAS 12 and the VA under ASC 740, I multiply the unscaled *NUTLC* (of the German sample) with the tax rate used for the deferred tax recognition. If a firm does not disclose the applied tax rate, I use the disclosed statutory tax rate.[19] After this transformation, the amount represents the unrecognized deferred

[16] See Figure 1 Panel B for an example of a tax footnote and the collected items.

[17] I use the following exchange rate to convert Euro into US-Dollar: 1 EUR = 1.1326 USD as of 30 March 2016, http://www.bloomberg.com/markets/currencies/cross-rates.

[18] For 168 observations, the VA is recognized completely or mainly for TLC. Neither estimating the regressions only with these observations nor dropping these observations changes the inferences.

[19] 276 observations disclose the tax rate used for the deferred tax recognition. Four observations do not disclose either of the two tax rates. In these cases, I use 30% as a proxy for the average statutory German tax rate.

tax assets for TLC, analogous to the VA under US-GAAP. Accordingly, I label the variable under both standards *VA*. Consistent with prior models, I scale the VA in both samples with average total assets.

In Model (3), the coefficients of the non-interacted variables (γ_1 and γ_2) represent the relations for the German sample (*US*=0) and should correspond to the results of model (1). The coefficient of interest, γ_5, indicates whether the predictive ability of recognized deferred tax assets for TLC with regard to future tax payments differs under IFRS and US-GAAP.

In model (4), the non-interacted coefficient for *VA* (δ_2) indicates the relation between the unrecognized deferred taxes and future tax payments for the German sample. A comparison with the results for model (1) suggests whether using *VA* instead of *NUTLC* changes inferences for the German sample. The coefficient for the interacted *VA*, δ_5, suggests whether differences exist between the information about future performance provided by the unrecognized deferred taxes for TLC under IFRS and the comparable US amount.

4. Sample and Descriptives

To investigate TLC information under IFRS and US-GAAP, I compare a German sample and a US sample. I choose Germany for the following reasons: First, it facilitates establishing a direct link to the prior literature since Chludek (2011b) analyzes the value relevance of deferred taxes under IFRS also with a German sample. Second, among the early IFRS adopters, Germany is one of the countries with the largest capital market. Third, given that most of the data has to be hand-collected, German data has the advantage that financial statements are relatively easily accessible online, provided by the Federal Gazette (similar to EDGAR for US firms).[20]

My start sample comprises the German Prime Standard with 280 firms. The sample period starts in 2010 after the financial crisis because the crisis makes predictions of future earnings and tax payments difficult. The sample period ends in 2012, to have sufficient years for the future variables. Additional to the hand-collected data from the tax footnote, I obtain accounting data from Thomson Reuters' Worldscope and I/B/E/S databases. Missing financial statements or missing data in the databases reduce the sample by 116 observations (of which 25 are dropped due to missing information on *DTATLC*). To mitigate the effect of outliers, I truncate all *TAX* and *PERF* variables at the 1st and 99th percentile. *DTATLC* and *VA* have a natural lower bound at zero and are only truncated at the 99th percentile. Due to the removal of outliers, I lose 60 observations and result in a final German sample of 239 firms with 664 observations.

[20] See for German firm data https://www.bundesanzeiger.de and for US firm data https://www.sec.gov/edgar/searchedgar/companysearch.html.

To compare deferred tax information under IFRS and US-GAAP, I match US firms to the German firms to have comparable firms under both standards.[21] The German firms are matched with their US counterparts based on a propensity score (nearest neighbor) one-to-one matching without replacement (Rosenbaum and Rubin, 1983). I utilize the whole Compustat North America population as a starting point and drop those observations with missing values for the needed data to determine firms available for the matching, resulting in 5,767 observations. Next, I match German and US firms from the same industry (one-digit SIC) on the mean values over my sample period of *SIZE* (natural logarithm of total assets), the number of analysts following the firm (natural logarithm), and earnings before tax (*EBT*).[22] I match on industry because having a similar business model and regulatory environment can affect earnings and tax payments. Similarly, *SIZE* could be related to future earnings and tax payments as larger firms might for example be able to implement other tax strategies than small firms (Stickney and McGee, 1982). Further, the size of a firm is also relevant for whether the necessary deferred tax information can be collected from firm's financial statements as small firms are usually subject to less demanding reporting requirements.[23] While the number of analysts following the firm might not directly affect earnings and tax payments, it can have an indirect impact via the monitoring role of financial analysts (Jensen and Meckling, 1976), resulting for example maybe in a more accurate deferred tax recognition in firms that are subject to higher analyst interest. I use I/B/E/S data on the number of analysts following a firm in the 11th month of the fiscal year, in line with prior research (O´Brien and Bhushan, 1990; Cheng and Subramanyam, 2008). Matching on *EBT* ensures that firms have a comparable level of earnings and hence a higher likelihood to have similar TLC levels.[24] Considerable differences in the existence and relative importance of TLC can affect the predictive ability of the reported items. After matching and dropping 63 observations due to missing data (thereof 32 observations due to missing information on *VA*) and 62 observations due to outliers, the final US sample comprises 442 observations. Table 2 gives an overview of the sample composition.

[Insert Table 2 here]

Table 3 compares *EBT*, *SIZE*, and *ANFOL* of the German sample with the unmatched US sample and the matched US sample per industry. While *SIZE* differs significantly in four out of eight industries before the matching, there are no significant differences (at the 1% level) after the matching. Five

[21] I did not match the US firms on the final sample of 664 German observations but on an earlier version with only 567 observations. The smaller sample size resulted from variables with many missing observations that were collected for an additional test. This test is not included in the final set of tests and therefore the German sample size is higher than initially expected.

[22] While Shipman et al. (2017) point out that the matching variables should generally be similar to the independent variables in the main estimation (i.e. model (1) and (2)), I cannot match on *DTATLC* and *NUTLC* because these variables have to be hand-collected from the tax footnote and are not available ex-ante. Instead, I use a number of other matching variables as proxies for a similar tax situation of firms.

[23] See e.g. the Securities and Exchange Commission (SEC) rule "Smaller Reporting Company Regulatory Relief and Simplification" (Release Nos. 33-8876, 34-56994).

[24] Earnings are not necessarily indicative of TLC because the taxable income usually differs from book income. However, without access to taxable income data, *EBT* is a useful proxy.

significantly different industry means of *ANFOL* before the matching are reduced to two significant differences after the matching. For *EBT*, there are neither before nor after the matching significant differences between the two samples. In sum, the matching reduces the differences between the two samples and results in comparable samples regarding the matching variables.

[Insert Table 3 here]

Table 4 presents summary statistics in Panel A for the German sample and in Panel B for the US sample. Due to different data availability for the *TAX* model variables and the *PERF* model variables (and to consider as much observations as possible for the analyses), the table separately presents summary statistics for the different models. The German sample has the largest sample size for the *TAX* models (664) and the US sample for the *PERF* models (442). For the US *TAX* models (414) and the German *PERF* models (461), sample size is smaller due to further missing variables.

A number of observations are dropped due to missing values for *DTATLC* (25 German observations and 47 US observations), *NUTLC* (255 German observations), and *VA* (31 US observations). If the respective item is missing because the firm did not disclose it although available, sample selection could be an issue. A possible line of argument could be that the deliberate or accidental non-disclosure of the item can be a signal of a general careless reporting behavior of management, associated also with volatile earnings and tax payments. In this scenario, an unobserved omitted variable (the choice to disclose or not disclose the item) would be associated with the outcome variables (future performance or tax payments) and could result in inconsistent estimators. However, this argument would require that firms' audited financial statements were not in line with the accounting standards' regulation. I assume that firms comply with the standards' requirements and auditors properly audit the financial statements, which mitigates sample selection concerns.

The statistics in Table 4 present the unscaled *TAX* and *PERF* variables and the scaling variable average total assets (*AV_AT)* in million US Dollars. For the German sample, the table includes the non-usable TLC from the tax footnote (*NUTLC*) as well as the amount adjusted to the US-GAAP *VA*. Both samples have, with $51.20m for the German sample and $58.68m for the US sample, considerable average net deferred tax assets for TLC, representing 0.9 percent (Germany) and 0.7 percent (US) of average total assets. The unrecognized deferred tax assets (*VA*) are about twice as high as *DTATLC*, indicating that deferred taxes are recognized only on one-third of the available TLC. With respect to the mean comparison, *DTATLC* and *VA* do not differ significantly between the two samples. The means of *TXC*, *TXPD*, and *EBT* are significantly different at the 1 percent level between the German and US sample. The median comparison with a Wilcoxon rank-sum test indicates significant differences for *SIZE* and *DTATLC*. While the matching generally worked well in reducing differences between the two samples as shown in Table 3, the final samples used for the analyses differ from the previously matched samples

due to missing values after the hand-collection. These deviations can explain the differences in the final samples, particularly for the matching variables *EBT* and *SIZE*.

[Insert Table 4 and Table 5 here]

A spearman correlation matrix for the German sample is presented in Panel A of Table 5 and for the US sample in Panel B of Table 5. For *VA* (and *NUTLC* in the German sample), the results show for both samples significant negative correlations with all current and future *PERF* variables, i.e. with *EBT* and *CF* (in t, t+1, t+2). *DTATLC* is significantly negatively correlated with all *TAX* variables in the German sample (*TXC* and *TXPD* for t, t+1, and t+2) but shows mixed and insignificant relations with the *TAX* variables in the US sample.

5. Regression Results

Table 6 reports the results for model (1) and (2) for the tests on the relation between deferred tax information under IFRS and future outcomes. The models are estimated with cross-sectional OLS regressions, year fixed effects, and standard errors clustered by firm (reported in parentheses).[25] Panel A presents the results for the *TAX* regressions (model (1)). In line with my expectations, the relation between current tax payments (*TXC* and *TXPD*) and future tax payments (in t+1 and t+2) is positive and highly significant. Controlling for the current tax payment, I find negative and significant coefficients for *DTATLC* in all four regressions. This result is consistent with H1a and indicates that the recognized deferred taxes for TLC (*DTATLC*) are useful to predict future tax payments, incremental to current tax payments. In terms of economic significance, an increase of *DTATLC* by one percent of average total assets (i.e. 0.01 units of *DTATLC*) is related to a decrease in the next year's *TXC* of 0.006 percent of average total assets, which represents about 0.3 percent of the mean scaled TXC_{t+1}.[26] Hence, the relation is statistically significant but economically rather small.

[Insert Table 6 here]

Results for the *PERF* regressions (model (2)) are reported in Panel B of Table 6. Current year's performance (*EBT* and *CFO*) has a positive and significant relation to the one-year ahead performance but not to the two-year ahead performance. The coefficient for the non-usable TLC (*NUTLC*) is negative and significant in all four models, providing support for H1b. For example, the coefficient of -0.019 for *NUTLC* in the first column of Panel B indicates that an increase in *NUTLC* by one percent of average total assets (0.01 units of *NUTLC*) is associated with a decrease in EBT_{t+1} of 0.019 percent of average total assets, representing 0.4 percent of the mean EBT_{t+1}.[27] This result suggests that the disclosed non-

[25] Results for standard errors clustered by both, firm and year, are discussed in the robustness tests in Section 6.

[26] Multiplication of the *DTATLC* coefficient -0.006 by 0.01 results in -0.00006, representing 0.006 percent of total assets. Relative to the mean scaled TXC_{t+1} of 0.022, this is 0.3 percent.

[27] Multiplying the *NUTLC* coefficient -0.019 by 0.01 results in -0.00019, representing 0.019 percent of total assets. Relative to the mean scaled EBT_{t+1} of 0.0538, this is 0.4 percent.

usable TLC have predictive ability regarding future earnings and cash flows that is incremental to the current performance but rather small in terms of economic significance.

In sum, the findings presented in Table 6 are in line with results of prior research on non-IFRS data, suggesting that deferred taxes under IFRS provide useful information although part of the information is disclosed, rather than recognized, and despite the possible persistence of national accounting patterns. The limited economic significance of the results is also consistent with prior research, as Laux (2013) finds that the information provided by deferred taxes is of small magnitude. Considering that Laux (2013) documents value relevance of deferred tax information despite the small magnitude, the lack of market relevance found by Chludek (2011b) is unlikely attributable to the limited economic significance. Taken together, the findings of this study and of Chludek (2011b) indicate that market participants do not value deferred tax information reported under IFRS although is provides useful information. This evidence is consistent with results of Israeli (2015), finding that disclosed items are valued less by investors although they are equally relevant for future financial outcomes as recognized items.

While the results in Table 6 for the IFRS sample are consistent with evidence from prior research using US-GAAP data, additional tests are necessary for a meaningful comparison of both standards. I estimate pooled regressions for the German and the matched US sample, including a country identifier and interaction effects. Again, year fixed effects are included and standard errors are clustered by firm. Results for the *TAX* interaction regressions (model (3)) are presented in Table 7 Panel A and for the *PERF* interaction estimations (model (4)) in Panel B.

[Insert Table 7 here]

Instead of *NUTLC*, I use the adjusted *VA* for the German sample in the *PERF* models to make the amount comparable to the US-GAAP *VA*. Results in Panel B for the non-interacted variables (*US*=0) show a weaker but still statistically significant and negative relation between the German *VA* and future performance. Hence, adjusting *NUTLC* to the *VA* does not change inferences for the non-usable TLC under IFRS. With respect to the comparison of the relation between deferred tax information and future outcomes under IFRS and US-GAAP, the interaction effects *DTATLC*US* and *VA*US* both have insignificant coefficients. These findings suggest that the relation between the recognized (unrecognized) deferred taxes for TLC and future tax payments (performance) is not significantly different for firms reporting under IFRS and US-GAAP.

However, differences in the German and US sample (see Table 4) that result from the loss of missing observations after the matching procedure might affect outcomes. With this caveat in mind, results from the interaction models should be interpreted with caution.

6. Robustness Checks

6.1 Additional Control Variables

I estimate the main regressions without control variables except for the current tax payments (or performance) and year-fixed effects, in line with Laux (2013). To assess whether other variables affect the results, I repeat the analyses with control variables drawn from other related studies (e.g. Herbohn et al., 2010). The additional variables should capture growth opportunities via the market-to-book ratio (*MTB*) and control for whether the firm is audited by a big-4 audit firm (*AUD*). Including the control variables reduces the sample size for the German (US) *TAX* models to 652 (382) observations and for the German (US) *PERF* models to 453 (408) observations. The coefficients for the control variables are insignificant in the majority of cases and results for the variables of interest show only slight changes in coefficient size and significance: Regarding the *TAX* regressions, significance for the *DTATLC* coefficient is reduced in the $TXPD_{t+1}$ model (to 10 percent level) and the $TXPD_{t+2}$ model (to 5 percent level); with respect to the *PERF* regressions, the coefficient of *NUTLC* is now significant on the 1 percent level (5 percent in main tests) in the EBT_{t+2} model. Overall, the inferences are not affected by including additional control variables.

6.2 Standard Errors Clustered by Firm and Year

In all main tests, standard errors are clustered by firm (year-fixed effects are included). Generally, Petersen (2009) recommends using standard errors clustered by firm *and* year for panel data. However, for small samples with few clusters in one of the dimensions, standard errors clustered by both firm and year can be biased (Petersen, 2009; Thompson, 2011). As my data has only three sample years, I do not use two-way clustered standard errors in my main tests. Repeating the tests with standard errors clustered by firm and year results in only minor changes in the significance of coefficients for the *TAX* and *PERF* IFRS regressions.[28] With regard to the interaction models, results show a significant negative relation between the interaction *DTATLC*US* and TXC_{t+2} (10 percent level), as well as between the interaction *VA*US* and EBT_{t+2} (5 percent level). Further, coefficients for the non-interacted *VA* are no longer significant for EBT_{t+2} and CF_{t+1}. The remaining results and the basic inferences are unchanged.

6.3 Outlier

The main tests are estimated after dropping outliers at the 1st and 99th percentile for all *TAX* and *PERF* variables and at the 99th percentile for *DTATLC* and *VA*. To assess the influence of the outlying observations, I repeat the analyses including the extreme values. Results for the performance regressions show only slight changes in coefficient size and significance, not affecting the inferences. However, results for the tax regressions differ from the main results. The current tax payment variables (TXC_t and $TXPD_t$) still have positive and highly significant coefficients in all four models but the coefficient for

[28] The coefficient of *DTATLC* is now significant on the 1 percent level (5 percent in main tests) in the $TXPD_{t+1}$ model and insignificant in the $TXPD_{t+2}$ model. The coefficient of *NUTLC* is significant on the 5 percent level (1 percent in main test) in the EBT_{t+1} model and on the 1 percent level (5 percent in main tests) in the EBT_{t+2} model.

DTATLC is now positive and weakly significant (10 percent) in the TXC_{t+1} and TXC_{t+2} model and negative (positive) and insignificant in the $TXPD_{t+1}$ ($TXPD_{t+2}$) model. Further, the interaction effect *DTATLC*US* has a significantly (5 percent) negative coefficient for both future *TXC* models and insignificant coefficients for both future *TXPD* models. Results are partly opposite to the main results and partly insignificant, not allowing consistent inferences and indicating a strong influence of the outliers.

To further assess the impact of outliers, I analyze the 60 extreme observations (dropped in Table 2) in additional tests. The outliers are large firms with a disproportionately high representation of firms from the industries (one-digit SIC) transportation/public utilities (26.67 percent compared to 8.43 percent in the total sample) and finance/insurance/real estate (18.33 percent compared to 9.53 percent in the total sample). Prior literature often excludes firms from these two industries due to different reporting requirements (e.g. Hanlon, 2005; Laux, 2013). However, after excluding only the outliers from the transportation/public utilities and the finance/insurance/real estate industry (27 observations), findings are still opposite to the main tests while after excluding only the 33 outlying observations from other industries, results are in line with the main tests. Even after scaling with average total assets, the 33 observations from other industries have values that are considerably higher than for the average sample firm, e.g. *TXC* (*TXPD*) represents on average 5.06 (4.77) percent of total assets in the total sample and 37.89 (36.30) percent in the outlier sample. These peculiarities might explain the effect of the observations and support the decision to exclude the outliers from the main tests.

6.4 Excluding Utilities and Financials

Related to the previous tests and consistent with prior literature (e.g., Hanlon, 2005; Laux, 2013), I exclude all observations from the industries utilities (SIC codes 4900-4999) and financial institutions (SIC codes 6000-6099) in a further robustness test.[29] Reducing the sample by 11 (26) observations for the German (US) *TAX* regressions and 8 (1) observations for the *PERF* regressions results in virtually unchanged coefficients for the variables of interest in all models.

7. Conclusion

I examine the predictive ability of deferred tax information under IFRS, focusing on the TLC component of deferred taxes. Analyzing a German IFRS sample with mainly hand-collected data, I expect and find a negative association between deferred tax assets for TLC and future tax payments as well as between non-usable TLC and future performance. The relations are statistically significant but small in terms of economic significance. Additionally, I compare the predictive ability of deferred tax information of the IFRS sample with a matched US sample, finding no significant differences. In sum, my results indicate that deferred taxes for TLC reported under IFRS provide information that is useful to predict future

[29] This subsample differs from the previous test because observations are not dropped based on the one-digit SIC code but on the full four-digit code (in line with prior literature) and because not only outliers but all sample firms in the respective industries are dropped.

outcomes and that this predictive ability does not differ significantly under IFRS and US-GAAP. The results are robust to different sensitivity tests.

This study makes several important contributions. First, standard setters should be interested in the usefulness of deferred tax information under IFRS. My results help to assess whether the repeatedly suggested replacement of the current recognition concept under IAS 12 by the US-GAAP two-step approach could improve the informative value of deferred taxes. My findings indicate that deferred taxes under IFRS provide information that is useful to predict future outcomes and that this information is of similar usefulness as under US-GAAP. Hence, while the adoption of the two-step recognition approach under IAS 12 could be desirable for reasons of convergence, it seems to provide little additional informative value for financial statement users.

Second, I contribute to the deferred tax literature by being the first to analyze the predictive ability under IFRS. Due to conceptual differences and possible influences of national accounting patterns, it is unclear whether the findings of prior research on non-IFRS data can be applied to IFRS deferred taxes. My results suggest that these differences do not affect the predictive ability of TLC deferred tax information and are consistent with prior evidence for other standards, particularly US-GAAP.

Third, my results should be of interest for financial statement users who form predictions about a firm's future tax payments and earnings. The results of Chludek (2011b) indicate that currently, market participants do not fully use or understand the information that can be derived from deferred taxes. My findings suggest that deferred taxes for TLC provide information about future tax payments and the non-usable portion of TLC provides information about future performance, incrementally to current tax payments and performance. Hence, investors should consider these items when they build expectations about future outcomes.

The following limitations should be considered when interpreting the results. First, while the focus on TLC enables the analysis of both information components and clear theoretical predictions, it may reduce the generalizability of the results. However, deferred taxes on TLC are an important component of total deferred taxes for a considerable number of firms.[30] Hence, the predictive ability of TLC information should be of interest for a large audience.

Second, the possible future application of the two-step VA approach does not necessarily have the same implications for firms that currently report under IFRS as for US firms. Differences in the regulatory environment or other cultural aspects can affect the implementation and should be considered for assessing the adoption of the VA approach under IAS 12.

[30] For example, Amir and Sougiannis (1999, Table 3, Panel D) find for a pooled sample of Fortune 500 firms that 606 of 961 observations (63 percent) have deferred taxes from losses and credits carried forward. Moreover, Flagmeier and Müller (2016, p. 17/18) analyze large German (DAX and M-DAX) firms and find that 582 of 605 observations (96 percent) have non-zero amounts of deferred tax assets for TLC.

Third, summary statistics in Table 4 show significant differences in the German and US sample, resulting from the loss of matched observations during the hand-collection. As these sample differences might affect the comparison of German and US firms, the results of the interaction models should be interpreted with caution.

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APPENDIX A

Table 1: Variable Definition and Data Sources

TAX	Either *TXC* or *TXPD*	
TXC	Current tax expense, divided by *AV_AT*	Worldscope, Compustat, Hand-collection
TXPD	Cash taxes paid, divided by *AV_AT*	Worldscope, Compustat, Hand-collection
PERF	Either *EBT* or *CFO*	
EBT	Earnings before tax, divided by *AV_AT*	Worldscope, Compustat
CFO	Cash flow from operations before tax, divided by *AV_AT*	Worldscope, Compustat
DTATLC	German sample: Deferred tax assets for TLC, divided by *AV_AT* US-sample: Deferred tax assets for TLC net of the VA, divided by *AV_AT*	Hand-collection
NUTLC	Non-usable TLC disclosed in tax footnote under IAS 12, divided by *AV_AT*	Hand-collection
VA	German sample: *NUTLC* multiplied by tax rate, divided by *AV_AT* US-sample: VA for TLC if available, otherwise total VA, divided by *AV_AT*	Hand-collection
AV_AT	Average of total assets at beginning and end of year	Worldscope, Compustat
MTB	Market capitalization divided by book value of equity	Worldscope, Compustat
AUD	indicator variable: 1 if company is audited by Big4 (Deloitte, Ernst and Young, KPMG, PWC), 0 otherwise	Hand-collection
SIZE	natural logarithm of total assets	Worldscope, Compustat
ANFOL	natural logarithm of number of analysts following the firm in the 11th month of the fiscal year	I/B/E/S

Table 2: Sample Overview

German Sample (period 2010-2012)

	Firms	Observations
Prime Standard	280	840
Missing data (*DTATLC*)	-8	-25
Missing data (other variables)	-18	-91
Outlier [a)]	-15	-60
Total [b)]	**239**	**664**

US Sample (period 2010-2012)

	Firms	Observations
Available for matching	2,210	5,767
Matched [c)]	189	567
Missing data (*VA*)	-11	-31
Missing data (other variables)	-8	-32
Outlier [a)]	-14	-62
Total [b)]	**156**	**442**

Note: [a)] Outliers are dropped at the 1st and 99th percentile for all *TAX* and *PERF* variables and at the 99th percentile for *DTATLC* and *VA*. [b)] The total number of observations is the respective maximum number used in either the *TAX* models or the *PERF* models. For an overview of the sample sizes for all models, see Table 4. [c)] The matched number of US observations is smaller than the final German sample size because I initially included a further test for which I/B/E/S forecasting data was needed and which reduced the German sample size to 567 observations (the basis for matching).

Table 3: Matching Variables Before and After Matching

Industry (one-digit SIC)		Mean German Sample	Mean US Sample	Mean German Sample	Mean US Sample
		Unmatched		Matched	
Mining	*EBT*	467.77	902.77	467.77	649.80
	SIZE	7.73	7.97	7.73	7.13
	ANFOL	2.45	1.60[a]	2.45	1.52
Construction	*EBT*	264.06	75.44	264.06	147.00
	SIZE	8.00	7.36	8.00	7.24
	ANFOL	2.34	1.90	2.34	1.67
Manufacturing	*EBT*	839.34	676.97	839.34	673.65
	SIZE	7.27	6.87[a]	7.27	7.15
	ANFOL	2.03	1.51[a]	2.03	1.64[a]
Transportation &	*EBT*	881.57	754.79	881.57	968.11
Public Utilities	*SIZE*	9.02	8.28[a]	9.02	8.42
	ANFOL	2.50	1.61[a]	2.50	1.83[a]
Wholesale Trade	*EBT*	129.46	310.55	129.46	215.73
	SIZE	7.55	7.37	7.55	6.92
	ANFOL	2.39	1.60[a]	2.39	1.89
Retail Trade	*EBT*	285.12	647.95	285.12	85.43
	SIZE	5.93	7.25[a]	5.93	5.96
	ANFOL	1.68	1.93	1.68	1.78
Finance, Insurance,	*EBT*	805.36	544.73	805.36	1,542.39
Real Estate	*SIZE*	8.54	8.50	8.54	8.78
	ANFOL	1.93	1.27[a]	1.93	1.48
Services	*EBT*	242.95	374.24	242.95	110.45
	SIZE	5.87	6.82[a]	5.87	6.24
	ANFOL	1.35	1.51	1.35	1.18

Note: *EBT* are unscaled earnings befor tax. All other variables are defined in Table 1. [a] indicates the difference between the means of the German and the US sample is significant at 1%. The German sample is the sample used for matching with 567 observations (the final German sample with 664 observations is higher because some variables with missing observations were initially used for an additional test but are not used in the final set of tests and do hence no longer reduce the sample size to 567 observations), the US unmatched sample are the 5,767 observations available for matching and the US matched sample the 567 matched observations (see Table 2). All (unscaled) amounts are quoted in million US Dollars.

Table 4: Summary Statistics

Panel A: German Sample

	Mean	Median	Std. Dev.	Min	Max	N
SIZE	5,962.75	451.09	22,267.33	5.96	260,106.10	664
TAX Variables						
TXC	72.99	6.57	215.45	-8.07	2,328.63	664
TXPD	68.03	6.17	197.80	-26.16	1,951.47	664
DTATLC	51.20	4.49	186.17	0	2,035.28	664
PERF Variables						
EBT	256.90	29.89	735.77	-262.11	8,243.06	461
CFO	406.84	49.48	1,155.58	-184.12	10,008.23	461
NUTLC	363.68	37.84	1,253.01	0	15,094.20	461
VA	108.42	11.21	375.29	0	4,608.25	461

Panel B: US Sample

	Mean	Median	Std. Dev.	Min	Max	N
SIZE	8,399.01	1,086.42[b]	23,647.58	0.60	184,451.00	414
TAX Variables						
TXC	122.65[a]	10.17	313.55	-19.15	2,407.00	414
TXPD	116.58[a]	10.09	310.31	-33.07	2,396.00	414
DTATLC	58.68	0.58[b]	205.78	0	1,853.73	414
PERF Variables						
EBT	499.35[a]	35.06	1,328.00	-406.00	8,681.00	442
CFO	615.93	73.29	1,678.82	-183.44	14,952.09	442
VA	111.90	13.05	361.31	0	3,393.00	442

Note: The table presents the unscaled values. Variables are defined in Table 1. For both samples, currency amounts are expressed in Million US-Dollar. [a] indicates that the difference between the means of the German and the US sample is significant at 1%, based on a two-sided t-statistic. [b] indicates that the difference in medians of the German and the US sample is significant at 1%, based on Wilcoxon rank-sum test.

Table 5: Spearman Correlation Matrix

Panel A: German Sample

	1)	*2)*	*3)*	*4)*	*5)*	*6)*	*7)*	*8)*	*9)*	*10)*	*11)*	*12)*	*13)*	*14)*	*15)*
1)TXC	1.000														
2)TXC$_{t+1}$	***0.817***	1.000													
3)TXC$_{t+2}$	***0.706***	***0.833***	1.000												
4)TXPD	***0.846***	***0.741***	***0.639***	1.000											
5)TXPD$_{t+1}$	***0.822***	***0.836***	***0.735***	***0.758***	1.000										
6)TXPD$_{t+2}$	***0.751***	***0.850***	***0.841***	***0.681***	***0.751***	1.000									
7)DTATLC	***-0.315***	***-0.284***	***-0.274***	***-0.327***	***0.302***	***0.250***	1.000								
8)EBT	***0.786***	***0.714***	***0.631***	***0.724***	***0.722***	***0.643***	***-0.296***	1.000							
9)EBT$_{t+1}$	***0.657***	***0.819***	***0.725***	***0.592***	***0.717***	***0.736***	***-0.200***	***0.745***	1.000						
10)EBT$_{t+2}$	***0.548***	***0.701***	***0.805***	***0.504***	***0.601***	***0.713***	***-0.181***	***0.608***	***0.786***	1.000					
11)CFO	***0.650***	***0.586***	***0.513***	***0.539***	***0.612***	***0.536***	***-0.247***	***0.735***	***0.600***	***0.471***	1.000				
12)CFO$_{t+1}$	***0.538***	***0.660***	***0.586***	***0.486***	***0.547***	***0.630***	***-0.141***	***0.601***	***0.743***	***0.626***	***0.722***	1.000			
13)CFO$_{t+2}$	***0.485***	***0.582***	***0.675***	***0.445***	***0.550***	***0.601***	***-0.130***	***0.531***	***0.632***	***0.734***	***0.638***	***0.742***	1.000		
14)NUTLC	***-0.269***	***-0.261***	***-0.251***	***-0.234***	***-0.257***	***-0.247***	***-0.194***	***0.277***	***-0.228***	***-0.175***	***-0.204***	***-0.192***	***-0.168***	1.000	
15)VA	***-0.295***	***-0.273***	***-0.264***	***-0.324***	***-0.310***	***-0.294***	***0.472***	***-0.272***	***-0.188***	***-0.135***	***-0.187***	***-0.140***	***-0.131***	***0.568***	1.000

Note: All variables are defined in Table 1. Figures in bold and in italics indicate significance at 5% level.

Panel B: US Sample

	1)	*2)*	*3)*	*4)*	*5)*	*6)*	*7)*	*8)*	*9)*	*10)*	*11)*	*12)*	*13)*	*14)*
1)TXC	1.000													
2)TXC$_{t+1}$	***0.795***	1.000												
3)TXC$_{t+2}$	***0.794***	***0.852***	1.000											
4)TXPD	***0.841***	***0.762***	***0.725***	1.000										
5)TXPD$_{t+1}$	***0.832***	***0.897***	***0791***	***0.783***	1.000									
6)TXPD$_{t+2}$	***0.728***	***0.867***	***0.895***	***0.741***	***0.819***	1.000								
7)DTATLC	0.013	0.018	0.002	-0.002	0.056	0.023	1.000							
8)EBT	***0.736***	***0.713***	***0.685***	***0.746***	***0.757***	***0.713***	***0.153***	1.000						
9)EBT$_{t+1}$	***0.637***	***0.744***	***0.692***	***0.620***	***0.728***	***0.745***	***0.134***	***0.801***	1.000					
10)EBT$_{t+2}$	***0.618***	***0.699***	***0.763***	***0.594***	***0.674***	***0.748***	***0.114***	***0.782***	***0.823***	1.000				
11)CFO	***0.479***	***0.500***	***0.509***	***0.446***	***0.499***	***0.500***	***0.192***	***0.646***	***0.627***	***0.593***	1.000			
12)CFO$_{t+1}$	***0.441***	***0.541***	***0.539***	***0.440***	***0.490***	***0.514***	***0.143***	***0.596***	***0.667***	***0.647***	***0.730***	1.000		
13)CFO$_{t+2}$	***0.425***	***0.503***	***0.560***	***0.387***	***0.444***	***0.500***	***0.139***	***0.572***	***0.641***	***0.682***	***0.642***	***0.771***	1.000	
14)VA	***-0.408***	***-0.380***	***-0.376***	***-0.398***	***-0.393***	***-.0377***	***-0.181***	***-0.441***	***-0.372***	***-0.409***	***-0.314***	***-0.289***	***-0.269***	1.000

Note: All variables are defined in Table 1. Figures in bold and in italics indicate significance at 5% level.

Table 6: IFRS (German Sample) Regressions

Panel A: *TAX* Regression Estimates

	TXC_{t+1}	TXC_{t+2}	$TXPD_{t+1}$	$TXPD_{t+2}$
Constant	0.007***	0.009***	0.008***	0.011***
	(0.002)	(0.002)	(0.001)	(0.002)
DTATLC	-0.006**	-0.005***	-0.003**	-0.005***
	(0.002)	(0.002)	(0.002)	(0.002)
TXC	0.777***	0.690***		
	(0.074)	(0.095)		
TXPD			0.795***	0.738***
			(0.061)	(0.084)
R^2	0.402	0.195	0.545	0.349
N	664	664	664	664
F-value	39.72	26.60	54.32	29.12

Panel B: *PERF* Regression Estimates

	EBT_{t+1}	EBT_{t+2}	CFO_{t+1}	CFO_{t+2}
Constant	0.050***	0.070***	0.074***	0.097***
	(0.010)	(0.023)	(0.016)	(0.022)
NUTLC	-0.019***	-0.031**	-0.016***	-0.034***
	(0.007)	(0.012)	(0.006)	(0.009)
EBT	0.340**	0.262		
	(0.146)	(0.213)		
CFO			0.347**	0.249
			(0.134)	(0.169)
R^2	0.409	0.249	0.479	0.586
N	461	461	461	461
F-value	38.45	44.82	69.55	89.01

Note: All variables are defined in Table 1. Year-fixed effects are included. Standard errors clustered by firm in parentheses. ***, **, and * indicate significance at 1%, 5%, and 10% respectively.

Table 7: Matched Sample Interaction Regressions

Panel A: *TAX* Interaction Regression Estimates

	TXC_{t+1}	TXC_{t+2}	$TXPD_{t+1}$	$TXPD_{t+2}$
Constant	0.006***	0.008***	0.006***	0.010***
	(0.002)	(0.002)	(0.001)	(0.002)
DTATLC	-0.006**	-0.005***	-0.003**	-0.005***
	(0.002)	(0.002)	(0.001)	(0.002)
TXC	0.778***	0.690***		
	(0.074)	(0.095)		
TXPD			0.794***	0.736***
			(0.060)	(0.084)
US	0.007	0.007	-0.002	-0.001
	(0.004)	(0.005)	(0.001)	(0.002)
*DTATLC*US*	-0.048	-0.055	0.011	0.010
	(0.045)	(0.046)	(0.007)	(0.014)
*TXC*US*	-0.373	-0.303		
	(0.252)	(0.257)		
*TXPD*US*			0.032	0.115
			(0.087)	(0.129)
R^2	0.363	0.192	0.547	0.362
N	1,078	1,078	1,078	1,078
F-value	24.18	16.39	56.78	27.57

Panel B: *PERF* Interaction Regression Estimates

	EBT_{t+1}	EBT_{t+2}	CFO_{t+1}	CFO_{t+2}
Constant	0.038***	0.062***	0.056***	0.075***
	(0.014)	(0.022)	(0.012)	(0.019)
VA	-0.065**	-0.107*	-0.061**	-0.126**
	(0.033)	(0.065)	(0.031)	(0.054)
EBT	0.429***	0.405**		
	(0.114)	(0.167)		
CFO			0.401***	0.379***
			(0.097)	(0.129)
US	-0.006	0.049	-0.042**	-0.050
	(0.025)	(0.054)	(0.018)	(0.032)
*VA*US*	-0.113	-0.509	0.008	0.074
	(0.140)	(0.316)	(0.054)	(0.112)
*EBT*US*	0.275	-0.243		
	(0.174)	(0.327)		
*CFO*US*			0.597***	0.827***
			(0.176)	(0.284)
R^2	0.640	0.531	0.708	0.632
N	903	903	903	903
F-value	60.25	15.74	48.81	31.77

Note: Regressions are estimated for the pooled sample of German and US firms. All variables are defined in Table 1. Year-fixed effects are included. Standard errors clustered by firm in parentheses. ***, **, and * indicate significance at 1%, 5%, and 10% respectively.

Figure 1: Tax Footnote Examples

Panel A: German Data

07 • Ertragsteuern

Der Ertragsteueraufwand einschließlich der latenten Steuern setzt sich wie folgt zusammen:

(in Mio. €)	2009	2010
Tatsächliche Ertragsteuern Deutschland	72	88
International	141	157
	213	245
Latente Steuern	-10	-18
	203	227

Von den in der Bilanz enthaltenen passiven latenten Steuern wurden 0 Mio. € (Vorjahr: 2 Mio. €) im Geschäftsjahr 2010 erfolgsneutral im Eigenkapital erfasst.

Es bestehen steuerliche Verlustvorträge und noch nicht genutzte Steuergutschriften in Höhe von 186 Mio. € (Vorjahr: 107 Mio. €), für die keine aktiven latenten Steuern bilanziert worden sind. Hiervon sind 56 Mio. € (Vorjahr: 56 Mio. €) unbegrenzt vortragsfähig, der Rest ist begrenzt vortragsfähig, größtenteils länger als fünf Jahre.

Auf thesaurierte Gewinne ausländischer Tochtergesellschaften werden grundsätzlich keine latenten Steuern gebildet, da diese Gewinne aus heutiger Sicht in den Unternehmen permanent investiert bleiben sollen. In Fällen, in denen Ausschüttungen geplant sind, werden die steuerlichen Konsequenzen solcher Ausschüttungen abgegrenzt. Für die Berechnung wird der jeweils anzuwendende Quellensteuersatz, gegebenenfalls unter der Berücksichtigung der deutschen Besteuerung von ausgeschütteten Dividenden, herangezogen. Im Berichtsjahr sind 7 Mio. € (Vorjahr: 4 Mio. €) passive latente Steuern angesetzt worden.

Bei der Ermittlung der Höhe der latenten Steueransprüche, die aktiviert werden können, ist eine wesentliche Ermessensausübung des Managements bezüglich des erwarteten Eintrittszeitpunkts und der Höhe des künftig zu versteuernden Einkommens erforderlich.

Die latenten Steuern betreffen die folgenden Bilanzpositionen und Sachverhalte:

Zuordnung der latenten Steuern (in Mio. €)	Latente Steueransprüche		Latente Steuerverbindlichkeit	
	31.12.2009	31.12.2010	31.12.2009	31.12.2010
Langfristige Vermögenswerte	22	43	74	73
Vorräte	22	21	-	-
Forderungen und sonstige kurzfristige Vermögenswerte	11	10	17	17
Rückstellungen für Pensionen und ähnliche Verpflichtungen	3	3	106	105
Übrige Rückstellungen	27	36	7	14
Verbindlichkeiten	32	36	17	17
Thesaurierte Gewinne	-	-	4	7
Verlustvorträge	5	5	-	-
	122	154	225	233
Saldierungen	-64	-78	-64	-78
Latente Steuern in der Bilanz	58	76	161	155

Note: Excerpt from the annual report 2010 of Beiersdorf AG, available under https://www.bundesanzeiger.de. The red frames indicate the information collected for the analyses. The information in the text gives the amount of TLC for which no deferred tax asset is recognized (€186m) and the table lists the deferred tax components, e.g. €5m for TLC.

Panel B: US Data

	March 31, 2011	March 31, 2010
Deferred Tax Liabilities		
Tradename and trademarks	$ 10,186	$ 10,135
Amortization of intangibles	27,520	24,381
Unremitted earnings of foreign subsidiaries	2,305	2,467
Basis of fixed assets	—	366
Other prepaid items	128	156
Gross deferred tax liabilities	40,139	37,505
Deferred Tax Assets		
Net operating losses	20,292	20,450
Restructuring reserves	2,773	4,504
Basis of fixed assets	58	—
Outsourced leases	189	185
Basis of finished goods inventory	8,538	9,226
Reserve for bad debts	1,190	4,376
Miscellaneous accrued expenses	2,478	3,459
Foreign tax credit carry-forwards	1,374	1,883
Accrued employee costs	5,482	5,525
Foreign exchange	33	210
Unexercised stock options	11,586	10,289
Other	104	89
Gross deferred tax assets	54,097	60,196
Valuation allowance	(3,518)	(3,623)
Net deferred tax assets	50,579	56,573
Net deferred tax assets/(liabilities)	$ 10,440	$ 19,068

The net deferred tax asset of $10,440 in the table above is primarily classified as current under Other assets within the Company's Consolidated Balance Sheets. At March 31, 2011, the Company had $25,678, $77,758 and $24,499 of federal, state and foreign gross net operating loss carry-forwards, respectively. As a result of the Company's acquisition of ACS, Section 382 of the Internal Revenue Code of 1986, as amended (the "Code") limits the amount of net operating losses available to the Company to approximately $3,392 per year. The federal gross net operating loss carry-forwards expire in Fiscal 2026. The state gross net operating loss carry-forwards expire at various times through Fiscal 2031 and the foreign gross net operating loss carry-forwards expire at various times through Fiscal 2021, with the exception of $448 for Austria, $350 for Belgium and $10,663 for Brazil, which have no expirations.

A valuation allowance is provided when it is more likely than not that some portion or all of the deferred tax assets will not be realized. The Company has recorded a valuation allowance of $3,518 for certain state and foreign net operating loss carry-forwards anticipated to produce no tax benefit.

Note: Excerpt from the 10-K 2011 of Black Box Corporation, available under https://www.sec.gov/Archives/edgar/data/849547/000095012311054722/l42680e10vk.htm. The red frames indicate the information collected for the analyses, i.e. the deferred tax assets for TLC ($20,292,000) and the VA ($3,518,000). Further, in the text is explained that the VA is recorded only for TLC in this case.

APPENDIX B

Differences in the Deferred Tax Asset Recognition

The IFRS standard IAS 12 requires the recognition of deferred tax assets "to the extent that it is probable that future taxable profit will be available against which the unused tax losses", unused tax credits (IAS 12.34), and deductible temporary differences (IAS 12.24) can be utilized. In other words, the recognition is limited to those deferred taxes that are expected to reverse in the future. Additionally, IAS 12.81 (e) requires the disclosure of those "deductible temporary differences, unused tax losses, and unused tax credits for which no deferred tax asset is recognised in the statement of financial position".

The US-GAAP standard ASC 740 (formerly SFAS 109) follows a two-step approach in the deferred tax asset recognition. First, deferred tax assets have to be recognized for the full amount of deductible temporary differences, unused tax losses, and tax credits. Second, firms are required to reduce the deferred tax assets by a VA if it is more likely than not that the amount will not be realized in the future (ASC 740-10-30-5). Under both standards, the net recognized amount is conceptually the same. However, differences exist regarding the unusable amount. While the VA under ASC 740 is a recognized contra-asset, the unusable temporary differences, tax losses, or tax credits under IAS 12 are a tax footnote disclosure.

Numerical Example

To illustrate the implications of the differences between IAS 12 and ASC 740, I provide a numerical example on the deferred tax information reported in financial statements. Assume two firms "IFRS" and "US" are equal except for the application of different accounting standards: firm IFRS reports under IAS 12 and firm US reports under ASC 740. Both firms have unused TLC of $100 of which $40 are expected to be usable. The firms apply a tax rate of 30% for the recognition of deferred tax assets. Firm IFRS recognizes $12 ($40*30%) deferred tax assets for TLC in the balance sheet. Firm US recognizes in the first step $30 ($100*30%) deferred tax assets for TLC and sets in the second step the VA to $18 ($60*30%). Both firms report net deferred tax assets for TLC of $12. In addition, firm US reports the gross amount of deferred taxes for TLC ($100) and the VA ($18) while firm IFRS discloses the unusable TLC amount of $60 in the tax footnote. The information is aggregated in the following table.

Table 8: Numerical Example

		Firm IFRS	Firm US	
IAS 12	Deferred Tax Assets TLC	12		Recognized
	TLC non-usable	60		Disclosed
ASC 740	Deferred Tax Assets TLC Gross		30	Recognized
	VA		18	Recognized
	Deferred Tax Assets TLC Net		12	Recognized

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