

THE ECONOMIC CONSEQUENCE OF INTERNATIONAL FINANCIAL REPORTING STANDARDS ADOPTION: EVIDENCE FROM CORPORATE TAX AVOIDANCE IN GULF STATES

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ABSTRACT

We examine whether IFRS as an accounting standard affects firm-level tax avoidance in the context of six economies across the Gulf region. We use a sample of 3,393 publicly listed firm-year observations from 2010 to 2016. Results show that firms adopting higher levels of harmonization with IFRS (full adoption) in the preparation of their financial reports engage less in tax avoidance activities. In contrast, non-adopting IFRS or adopting IFRS with modifications might be not only inappropriate and irrelevant, but also significantly harmful to reporting quality. We use two models in addition to OLS model. The overall results from both the logistic model and quantile model provide extra support to the OLS results. However, when other control variables are introduced in the main model (i.e. reporting losses, institutional ownership concentration and Big N auditors), the results suggest that in the context of GCC countries institutional ownership and Big N auditors, as external governances play negative role in monitoring managerial activities including the tax function. The findings of this paper have implications for tax authorities, investors and researchers.

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KEYWORDS: International Financial Reporting Standards, Tax Avoidance, Gulf Region

INTRODUCTION

In this paper we examine the economic influence of International Financial Reporting Standards (IFRS) adoption on the tax function. Agency theory literature provides direct evidence that managerial diversion has a negative impact on taxation systems (e.g. Desai & Dharmapala, 2009; Guenther et al., 1997). International accounting literature suggests that adopting higher accounting standards like IFRS allows outsiders to better monitor managerial activities and diversions (e.g. Aussenegg et al., 2008; Chua et al., 2012; Liu et al., 2011) including the tax function. However, there is mixed evidence on the economic consequences following IFRS adoption. Therefore, whether, and to what extent, IFRS adoption affects firm-level tax functions remain a pending issue and an important empirical question.

Numerous studies have shown that IFRS has important impacts on measurement and disclosure rules, when compared to many local GAAPs. Further, it provides many capital market benefits, such as increased financial statement comparability that helps investors to evaluate potential investment more easily, with less risk (e.g. Armstrong et al., 2010; Liao et al., 2012), improves liquidity and firm value (e.g. Barth et al., 2008) and decreases cost of capital (e.g. Daske et al., 2013). Armstrong et al. (2010) also highlight the improvement of earnings reporting that result from adoption of IFRS, where firms exhibit lower levels of earnings management and more timely loss recognition relative to a matched sample of firms reported under local GAAP. Moreover, IFRS adoption improves the information environment, since it increases forecast

accuracy (e.g. Bae et al., 2008), and decreases information asymmetry between managers and shareholders (Horton et al., 2013).

Opponents of IFRS adoption, particularly in developing countries, argue that IFRS may have negative economic consequences on the taxation system (Joshi & Bremser, 2003). For instance, Samuel et al. (2013, p. 172) highlight that "IFRS adoption creates a challenge for tax law and a need to revisit the theoretical and practical foundations for the use of accounting as a starting point for taxation of companies". That is, IFRS are independent of tax reporting considerations. Thus, the adoption of IFRS had an important impact over the link between financial accounting and tax accounting, where such relaxation in book–tax conformity increases managers' mutual benefits, which can occur through either extra dividends and compensation or reducing tax-liabilities. In contrast, greater book–tax conformity encourages an additional monitor (Desai & Dharmapala, 2009; Karampinis & Hevas, 2013).

IFRSs are primarily designed to meet the needs of shareholders (Spathis & Georgakopoulou, 2007). However, in most developing countries financial and accounting systems are more likely to address the needs of the state to provide information for the purpose of control. Consequently, the tax system works as an instrument of government to provide the demand of economic and social policy rather than the needs of shareholders (James, 2002). Furthermore, IFRS may contain different practices caused by the inevitable estimations or alternative methods involved in the preparation of financial reporting that are equally acceptable in terms of accounting standards. The choice of which approach is used might be restricted by tax laws (Samuel et al., 2013).

The Gulf Co-Operation Council member states (GCC) provide an interesting and useful research setting for two main reasons. First, in the Gulf region has been the subject of relatively little research both at the individual country and group levels. This study will therefore expand the specific literature on the Gulf region across countries and over time. Second, countries in the region depend on oil revenues. Therefore, their total revenues are highly volatile due to oil price shocks. Thus, for longer-run financial sustainability tax revenues are extremely important for GCC countries. Therefore, since the late 1990's, there has been a continuous implementing reform susceptible of improving the fundamental determining of economic growth, including legal reforms (i.e. regulations governing the status of foreign investments, commercial law, and tax law). In spite of common economic reforms, GCC countries have achieved differing degrees of economic development and regulation framework in term of tax systems, tax disclosure requirements, enforcement score and main tax bases (Al-Shammari et al., 2008; Erdogdu, 2016). In this study we predict that these differences will give rise to between countries differences in level of tax avoidance.

A panel data set of publicly listed firms from six economies across the Gulf region is used to test hypotheses. Using a sample comprising of 3,393 firm-year observations from 2010 to 2016, we provide empirical evidence that tax avoidance is negatively associated with a firms' harmonization level with IFRS. This suggests that firms adopting higher level of harmonization with IFRS in the preparation of their financial report less tax avoidance activities. These results are consistent with prior studies that find evidence of an improvement in reporting quality post IFRS adoption (e.g. Amidu et al., 2016; Barth et al., 2008; Karampinis and Hevas, 2013; Kerr, 2013). Results from the logistic model and quantile model yield similar conclusions to those from the OLS model, thus providing additional support for the previous evidence. Moreover, we extend the previous investigation of the relation between tax avoidance and IFRS adoption to include the effect of firm-level characteristics (i.e. reporting losses, institutional ownership concentration, and Big N). Our results indicate that, in the context of GCC countries, institutional ownership and Big N auditors, as external governances play negative role in monitoring managerial activities including the tax function. Finally, the findings are robust with respect to different measures of corporate tax avoidance and IFRS adoption.

This study contributes to the literature and regulation in several ways. First, it expands existing literature on tax avoidance by providing insights to market regulators and researchers of the complexity and ambiguity of tax law in an IFRS setting. These inferences add to the current debate concerning pros and cons of IFRS adoption to developing countries (e.g. Ballas et al., 2010; Tyrrall et al., 2007). It also seeks to clarify mixed finding of the prior literature on the economic consequences of IFRS adoption. Thus, our study of the GCC setting has important features and contributes to accounting practices within the global business environment, since some of the countries in the region have been early mandatory adopters of IFRS. This, in turn, reflects considerable experience with the use of a mandatory adoption relative to voluntary adoption (Al-Shammari et al., 2008).

Further, our results contain value relevant information useful to tax authorities and investors. Revisiting the links between IFRS adoption and tax function provides some promising changes that can influence the design of information systems and tax administration. To sum up, it encourages reliance on book-tax conformity whenever possible. This, in turn, can have significant benefits such as reducing compliance costs and tax rates. Therefore, a legislative effort to enforce IFRS compliance for tax purposes looks necessary. Similarly, investors must consider how to evaluate tax avoidance activities to ensure that shareholders' interests are being served or not, particularly, in term of recent market valuations view of tax avoidance that no longer recognize tax as a transfer of value from the state to shareholders (Desai & Dharmapala, 2009). This in turn, increases the monitoring role of managers, shareholders and boards and highlights the importance of reviewing and supervising tax activities within firms.

The rest of the paper is organized as follows. First, we provide an overview of our study. Second, we review the relevant prior literature and develop the main hypothesis that posits the associations between IFRS adoption and tax avoidance. Third, our models and results are described in the succeeding section. Finally, we present the implication of the study, followed by the conclusion.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Tax Systems and IFRS Adoption in GCC Countries: An Overview

The Gulf Co-Operation Council member states (GCC) was established in 1981 and it is comprised of six Arabian countries namely, Bahrain, Kuwait, Qatar, Oman, Saudi Arabia, and United Arab of Emirates. While GCC countries achieve economic and financial integration among each other and into the global market, they differ in many ways including regulations, institutional and developments of their markets (IMF, 2015).

The issue of introducing Tax Systems in GCC countries go back to the 1950s. For example, Saudi Arabia introduced personal income, capital gain, and corporate taxes in 1950. Then other GCC countries followed suit, Kuwait in 1955, United Arab Emirates (UAE) in the mid-1960s, while Oman in the early 1970s. To capitalize on their domestic wealth, countries in the gulf region can be classified as non-tax revenues countries comprising, oil exporters, which heavily depend on revenue from oil and other hydrocarbon resources. These countries are mostly small, with limited diversification opportunities because of their small domestic markets. It is generally observed that GCC taxation systems are not very efficient and generate persistently low revenues (IMF, 2015). More precisely, tax revenues in general account for only a small percentage of GDP (1 to 5 percent), due to lower tax rates, limited sources (i.e. international trade, specific goods, and corporate taxes on foreign firms), along with a simple tax structure and revenue administration which could be seen as related to poor governance performance of the region (Erdogdu, 2016).

The rapid economic growth and opening up of capital markets in the GCC countries along with pressure from high volatility in total revenue due to oil price shocks has led the governments to implement a regulation reform to establish a modern tax system and tax institutions. These reforms comprise of enacting

new taxes (e.g. value added taxes-VAT) and new tax laws (e.g. renew income tax act, introducing modern tax practices including reliance on international accepted tax principles and introducing transfer pricing provisions), introducing free zone and tax holidays, reducing tax rates on foreign corporations and using a flat tax rate for all activities (Mansour, 2015). The main objectives of these efforts have been to improve efficiency and to stabilize revenue yield by simplifying the tax system, removing tax obstacles to promote foreign direct investment (FDI) and growth, and modernizing the tax administration. However, the design and timing of tax systems reform differs across GCC countries depending on local needs and constraints ((IMF, 2015; Mansour, 2015). These countries thus constitute an appropriate sample for a comparative analysis linking the new regulation reforms to instructions and economic growth.

With regard to the IFRS adoption, governments in GCC countries have the power to create and enforce specific accounting laws. Further, the accounting profession is in its infancy with little power to license auditors or impose compliance with accounting standards (Al-Shammari et al., 2008). There are no clear instructions about accounting standards that should be followed by various entities in these countries (Al-Qahtani, 2006).

It is well documented that global coercive and mimetic pressures including, foreign investments, trade partnership, and the density of Big 4 offices have led to the adoption of IFRS in GCC countries. The objective is to attract global investments, develop the economy, gain access to capital markets and increase the monetary power (e.g. Irvine, 2008; Joshi & Bremser, 2003). Therefore, GCC countries made a great effort to introduce IAS/IFRS for some or all listed companies. It is noteworthy that the nature of IAS/IFRS adoption by the GCC countries varies across jurisdictions and across time (Al-Shammari et al., 2008).

Some countries mandated the adoption for all listed companies (e.g. Bahrain, Kuwait, and Oman), while others allow voluntary use of IFRS (e.g. UAE), or require IFRS adoption in a specified industry (e.g. Saudi Arabia) (Deloitte, 2015). Studies on IFRS adoption in GCC countries highlight some unique factors such as language, culture and tax legislation requirements, which may impede the successful implementation of IFRS in these countries (e.g. Joshi et al., 2008; Irvine, 2008).

During the last decade, adoption of IFRS has been debated in the accounting literature. Generally, the debate has moved in two directions. The first line of literature focuses on the reasons and relevance of these standards, particularly in developing countries (e.g. Ali & Hwang, 2000; Ballas et al., 2010; Tyrrall et al., 2007). The second strand of literature concentrates on market consequences of these standards adoption and its impact on the quality of financial statements in general and earnings quality in particular (e.g. Barth et al., 2008; Daske et al., 2013).

The findings of these studies provide mixed evidence, which in turn, makes the economic consequence of IFRS adoption an open issue on the firm and country-level. Research regarding economic consequences of IFRS adoption in GCC countries has been sparse both on individual country and on group level. Joshi et al. (2008) and Aljifri and Khasharmeh (2006) conducted a study in Bahrain and United Arab Emirates respectively, finding evidence that applying IFRS improves the effectiveness and value relevance of financial reporting. With the exception of Joshi et al., (2008) and Aljifri and Khasharmeh (2006), prior studies that relate to the Gulf region concentrate on examining compliance level and value relevance of IFRS (e.g. Al-Shammari et al., 2008; Othman and Kossentini, 2015). The current study expands this line of literature and responds to the lack of firm-level empirical studies by providing evidence on the consequences of IFRS adoption on accounting quality to explain and compare a firm level of tax avoidance across six countries in the Gulf region.

IFRS Adoption and Tax Avoidance

Research examining the direct impact of IFRS adoption on tax avoidance is limited. For example, Kerr (2013) examines the effect of IFRS adoption on tax avoidance for 25 countries from 1993 to 2008. Results suggest that IFRS adoption reduces the ability of firms to avoid taxes. This is because IFRS adoption causes an increase in transparency. In a similar framework, Karampinis & Hevas (2013) investigate whether the adoption of IFRS affected tax implications in Greece from 2000 to 2010. The results indicate that IFRS adoption reduced book-tax conformity. In other words, IFRS adoption reduces the impact of tax implications on financial income, which may result in a significant negative determinant of discretionary accruals in the pre-IFRS period. Amidu et al., (2016) confirm similar results in the context of Ghana's firms. In contrast, Doukakis et al. (2007) investigate whether adoption (particularly IAS 12) can be used as tax planning strategies in UK between 2004 and 2006 for non-financial listed firms. The empirical evidence suggests that firms use deferred taxation strategies to reduce future tax expense and meet their tax planning policies. Further, Chan et al. (2010) examine the impact of IFRS on tax adjustments in China. They provide evidence that audit adjustments decrease book-tax conformity post IFRS adoption. This is due to historical Chinese reporting standards that did not differentiate between book and tax accounting.

More recently, Simone (2015) investigates whether adoption of IFRS facilitates income tax-motivated profit shifting by multinational entities MNEs in a sample of 27 EU countries from 2001 to 2010. The results indicate that tax avoidance increases post IFRS adoption since MNEs in high-tax jurisdictions achieve a range of possible tax-advantages. In a similar vein, Braga (2017) finds evidence of higher level of corporate tax avoidance after IFRS adoption in 35 countries from 1999 to 2014. To sum up, collectively prior studies provide mixed results considering the relationship between IFRS adoption and tax avoidance, leaving the question open for additional study. In this study we reinvestigate whether IFRS adoption affects firm-level tax avoidance in the context of GCC countries. One hypothesis is that IFRS adoption has a positive impact on tax function. This is due to the adoption of IFRS within a country being outside the firms' control, as well as the improvement in the information environment that accompanied such adoption. It follows then that IFRS adoption will lead to a decrease in tax avoidance for those firms that experienced high levels of harmonization with IFRS, relative to those that did not adopt IFRS or have adopted IFRS with modification.

An alternative hypothesis is that IFRS adoption increases tax avoidance. To the extent that firms face international pressure to adopt IFRS to meet analyst or market expectations, firms may be unable to keep earnings quality high while also meeting those expectations. Further, to the extent that IFRS adoption was not also accompanied by a change to the country's tax regime, firms would be powerless to independently improve their earnings quality. It follows that IFRS adoption will lead to an increase in tax avoidance for those firms that experienced high levels of harmonization with IFRS relative to those that did not adopt IFRS or have adopted IFRS with modification. These contradictory views form the first hypothesis:

H1: The higher level of harmonization with IFRS is associated negatively (positively) and significantly with the level of corporate tax avoidance.

IFRS Adoption in Loss Firms and Tax Avoidance

To probe further into the relationship between tax avoidance activities and IFRS adoption, particularly in firms with some unique criteria such as firms reporting losses, we also examine whether firms reporting losses influence the relationship between tax avoidance and IFRS adoption. Apart from Balakrishnan et al. (2012), the accounting literature contains very limited direct empirical evidence on the relationship between firms reporting losses and tax avoidance levels. Dechow & Dichev (2002) show that loss firms have more motivation to report lower earnings quality and suffer from higher levels of information asymmetry. More precisely, loss firms are motivated to be tax planners to cover bad news such as having very low income

(Balakrishnan et al., 2012). In this paper we expect the impact of IFRS adoption on tax avoidance would be stronger in firms reporting losses compare to firms do not reporting losses. This leads to formulate the second hypothesis as follows:

H2: The strength of the relationship between the level of harmonization with IFRS and the corporate tax avoidance is stronger (weaker) in firms reporting loss.

IFRS Adoption and Tax Avoidance in Firms with Strong Corporate Governance

Recent research provides evidence suggesting that corporate governance monitoring mechanisms may assist in limiting managerial opportunism and tax avoidance activities (e.g. Desai & Dharmapala, 2009; Taylor & Richardson, 2013). Thus, firm-level governance is expected to influence tax avoidance levels. The current study extends the previous investigation of the relation between tax avoidance and IFRS adoption to include the effect of two firm-level governance mechanisms comprising institutional ownership and Big N.

Institutional owners can serve as an important corporate governance monitoring mechanism because they have greater power and influence over the board of directors and management than do smaller shareholders. This occurs first, through their substantive leverage, and second, through voting rights that can be directly employed to influence the decisions of management (Fernando et al., 2012; Velury & Jenkins, 2006). Khurana and Moser (2013) examine the relation between institutional investors and tax avoidance. Their results support the effective monitoring role of institutional investors on mitigating the collective-action problem among shareholders in the context of U.S. firms.

Khan et al. (2017) provide an opposite result when they investigate the relation between institutional ownership concentration and tax avoidance between 1988 and 2006 using the Russell index 1000-2000. Their results provide empirical evidence suggesting that an increase in institutional ownership concentration is associated positively and significantly with tax avoidance. However, they suggest that promoting tax avoidance activities by institutional owners is unlikely to be direct. Instead they encourage this incentive indirectly by demanding better firm financial performance or by using a private communication to achieve same effect.

Another important corporate governance monitoring mechanism is the use of an external auditors from one of the Big-N audit firms. Previous literature repeatedly shows that Big-N auditors have positive impact on financial reporting quality (Hodgdon et al., 2009). For instance, Hodgdon's et al. (2009) results reinforce the importance role of Big-N auditors to encourage compliance with IFRS. Meanwhile, it is well documented that global factors such as the density of Big N offices has led to the adoption of IFRS in Gulf countries and other emerging economies (e.g. Irvine; Joshi & Bremser, 2003; Ramanna & Sletten, 2014).

With regard to the role of Big-N auditors in corporate tax avoidance, the literature shows negative impacts. More recently, Jones et al. (2018) examined the impact of Big-N auditors on corporate tax avoidance in 12 developed countries between 2005 and 2013. Their findings suggest that using a Big 4 accountancy firm for auditing purposes specifically in the context of multinational enterprises (MNEs) increases tax avoidance activities through building, managing and maintaining tax haven networks. Jones et al. (2018, p. 175) highlight the role of large accountancy firms as tax advisors, showing that "these firms do not market tax avoidance schemes but also create schemes tailored for individual clients". It is worth mentioning that despite the fact that there have been significant regulatory driven changes via Sarbanes-Oxley Act (SOX) to improve the governance over non-audit services (i.e. tax services), which encouraging firms not to use the tax services of their auditor, it is still not illegal. This paper expects the impact of IFRS adoption on tax avoidance would be stronger (weaker) when there is a high institutional ownership concentration and an existence of Big-N auditors. The previous argument leads to formulate the third hypothesis:

H3a: The strength of the relationship between the level of harmonization with IFRS and corporate tax avoidance is stronger (weaker) in firms with high institutional ownership concentration.

H3b: The strength of the relationship between the level of harmonization with IFRS and corporate tax avoidance is stronger (weaker) in firms audit by Big N auditors.

METHODOLOGY-RESEARCH DESIGN

Sample Selection and Data Source

We use panel regression to analyze pooled data for publicly listed firms in six economies across the Gulf region (GCC). The sample period for the study is 2010 to 2016. We collect the initial sample from the Bureau van Dijk's flagship company (OSIRIS) database for 4,933 firm-year observations. The sample is reduced by 1,540 firm-year observations after excluding companies with insufficient data to calculate all control variables, leaving a sample of 3,393 firm-year observations. To mitigate the influence of outliers, continuous variables are winsorized at the 1st and 99th percentile. See Appendix A for variable definitions.

Variables Construction

Corporate Tax Avoidance (CTA) represents the dependent variable in this study. Following, Hanlon and Heitzman (2010) we define tax avoidance as the reduction of explicit pre-tax earnings via legal tax planning or illegal sheltering. Consistent with prior research (e.g. Balakrishnan et al., 2012; Desai and Dharmapala, 2009; Karampinis and Hevas, 2013; Taylor & Richardson, 2013) firm-level tax avoidance is measured based on so called "book-tax gaps" which incorporates the effects of earnings management. It is well documented that differences between book and tax income provide a signal on the persistence of accruals and earnings growth (Hanlon & Heitzman, 2010). If the book-tax gap for firm i in year t (measured as pre-tax income less taxable income), scaled by the lagged value of total assets, is denoted by BT_{it} and the performance-adjusted abnormal accruals (Kothari et al., 2005) is denoted by TA_{it} . It is possible to measure corporate tax avoidance via the following regression specification:

$$BT_{it} = \beta_1 TA_{it} + u_i + \varepsilon_{it} \quad (1)$$

Where u_i is the average value of the residual for firm i over the sample period, and ε_{it} is the deviation in year t from firm i and average residual u_i . The residual ($u_i + \varepsilon_{it}$) from this regression (i.e. the component of BT_{it} that cannot be explained by variations in accruals, and hence by earnings management) can be interpreted as a measure of CTA activity. To justify using book-tax gaps as a measure of CTA activity, Desai and Dharmapala (2009) point out it is the only available procedure in the absence of direct observation of firms' tax returns. Moreover, it has the advantage of being similar to what investors can measure.

IFRS adoption represents the independent test variable in this study. Following Ramanna and Sletten (2014) IFRS adoption is measured using an ordinal variable reflecting the level of harmonization with IFRS. Ramanna and Sletten (2014) use actual adoption dates as a gauge for adoption decision dates. Their data begins in 2003 because they are interested in IFRS as developed and sponsored by the International Accounting Standards Board (IASB). Furthermore, 2002 was the first full year of the IASB's existence. IFRS variable takes three values: "1" for country-year with no IFRS-related activities; "2" for country-year with partial adoption (i.e., countries with convergence projects, countries allowing voluntary IFRS adoption, and countries requiring IFRS for some listed companies); "3" for country-year with full IFRS adoption for listed firms.

For the purpose of deepening the investigation of the impact of harmonization level with IFRS on CTA activities, we convert the IFRS variable into three dichotomous variables. First, NIFRS the non-adoption

of IFRS measured by a dichotomous variable that takes the value of 1 for the country-year coded one as for IFRS and zero otherwise. Second, PIFRS the partial adoption of IFRS measured by a dichotomous variable that takes the value of 1 for the country-year coded two as for IFRS and zero otherwise. Finally, FIFRS the Full IFRS adoption measured by a dichotomous variable that takes the value of 1 for the country-year coded three for IFRS and 0 otherwise. In coding the country-year IFRS adoption variable for GCC countries two main data sources, provided by Ramanna and Sletten (2014) and Othman and Kossentini (2015), are used. Ramanna and Sletten (2014) and Othman and Kossentini (2015) built a country measure for IFRS variable based on three primary sources of data (1) IAS Plus, operated by Deloitte Global Services; (2) a similar Internet database from PriceWaterhouseCoopers; and (3) data from the World Bank's country Reports on Observance of Standards and Codes (ROSC reports).

Several control variables are included to control for other effects, including firm size (SIZE). Several studies suggest that larger firms are more likely to depress earnings to reduce the amount of corporate taxes payable and thus have greater tax deficiencies relative to their actual tax liability (e.g. Rego, 2003). SIZE measures the natural log of total assets at the end of the year. Consistent with previous research, firm with greater leverage (LEV) have more incentive to reduce tax obligation (e.g. Amiram et al., 2011). LEV measures as total debt divided by total assets at the end of the year.

In addition, following (Adhikari et al., 2005) the book-to-market ratio, BM, controls for growth opportunities of the firm. Firms with stable growth may avoid more tax on average. A cash flow variable (CFO) is included because firms with fewer financial resources are likely to allocate fewer resources to their tax function in comparison to firms without similar constraints (Karampinis and Hevas, 2013). CFO measures the natural log of cash flow from operations divided by total assets at the end of the year. Further, to account for differences in size of economies across GCC countries and differences in regulations, two country specific characteristics variables are incorporated as a control. The variables are market size (MK) and Rule of Law (RL). MK measures as the natural log of market capitalization as a percent of the Growth Domestic Product in U.S. dollars (GDP). RL score of -2.5 to 2.5 from Kaufmann et al. (2014). Finally, to control for the variation in time-based explanations that might lead to a spurious correlation between IFRS and CTA, we include both year and industry fixed effects in the regression. Year fixed effects are categorical variables. Whereas, Industry variables (SIC) are dummy variables and representing two-digit SIC codes based on the Fama-French (Fama & French, 1997) forty-eight industry classification.

RESULT AND DISCUSSION

Descriptive Statistics

Table 1, presents the distribution of harmonization level with IFRS across the 4,213 observations to determine IFRS adoption status in the firm-year panel. The rows in Table 1 correspond to the three different adoption statuses described earlier: (1) Non adopter, (2) Partial adoption, comprising countries with convergence projects, countries allowing voluntary IFRS use, countries requiring IFRS for some listed companies, and (3) Full adoption. The columns represent the seven years in the panel, 2010–2016. The number of Full adoptions grows from 402 firms in 2010 to 536 firms in 2016.

Table 2, panel A reports summary statistic for the dependent variable (CTA). The mean of CTA is (-0.002) and varies across GCC countries over the sample period 2010 to 2016. Bahrain and Oman have the highest level of CTA, whereas United Arab Emirates and Qatar have the lowest level of CTA in the region during the sample period. Panel B of Table 1 reports summary statistics for the control variables, incorporating firm specific characteristics.

Table 1: IFRS Adoption Status in the Firm-Year Panel

Adoption Status	2010	2011	2012	2013	2014	2015	2016	Total
Non adopter	88	94	106					288
Partial adoption				111	127	137	143	518
Full adoption	402	440	468	507	522	532	536	3,407
Total	490	534	574	618	649	669	679	4,213

This table provides summary statistics.

Panel C reports the frequency of dummy variables used in the models. While, the majority of sample firms have institutional ownership (69.73 percent), only 17.88 percent of sample firms report losses. The results of the BIGN variable imply that quite a number of sample firms employ the services of the Big-N audit firms (45.96), but a majority of them employ the services of auditors other than Big-N (54.04).

The (non-tabulated) collinearity test was carried out and an average variance inflation factor (VIF) of 1.95 and a highest VIF of 3.31 were found. Groebner et al. (2008) asserted that a VIF below 5 is generally accepted, which suggests that the models used in this study do not present multicollinearity problems.

Table 2: Descriptive Statistics

Panel A: Dependent Variable Corporate Tax Avoidance (CTA), 2010-2016						
	N	Mean	Q1	Median	Q3	Std.
All sample	3,933	-0.002	-0.007	-0.005	-0.001	0.008
Bahrain	323	-0.004	-0.007	-0.007	-0.005	0.010
Kuwait	1,490	-0.003	-0.008	-0.006	-0.003	0.009
Oman	1,049	-0.001	-0.007	-0.004	0.004	0.010
Qatar	283	-0.010	-0.007	-0.007	-0.006	0.004
Saudi Arabia	963	-0.002	-0.005	-0.002	0.001	0.005
United Arab Emirates	825	-0.010	-0.008	-0.007	-0.006	0.004
Panel B: Control Variables						
SIZE	4,441	12.333	10.877	12.112	13.516	2.052
LEV	3,386	0.525	0.195	0.413	0.682	0.553
CFO	3,399	9.495	8.106	9.582	10.764	2.125
BM	4,846	9.856	5.568	10.008	12.378	5.749
RL	4,709	0.170	0.160	0.160	0.190	0.016
MK	4,916	25.025	23.776	24.808	25.590	0.967
Panel C: Dummy Variables						
	Value	Frequency	%			
LOSS	0	4,051	82.12			
	1	882	17.88			
PIH	0	1,493	30.27			
	1	3,440	69.73			
BIGN	0	2,666	54.04			
	1	2,267	45.96			

Notes: This table provides a description of country-level tax avoidance, firm-level control and dummy variables for the sample period from 2010 to 2016. All variables are defined in Appendix A.

Table 3 shows Pearson correlation matrix among dependent and independent variables. The univariate tests suggest that higher level of harmonization with IFRS is negatively and significantly associated with the level of corporate tax avoidance activity. Negative and significant correlations between CTA and the control variables (SIZE, BM, and MK) suggest that firms with large size, and book to market value are less likely to engage in tax avoidance activities, particularly in countries with more developed market. In contrast,

there is a positive and significant correlation between CTA and LEV and CFO, suggesting that highly geared firms with high cash flows are more likely to engage in tax avoidance activities.

Table 3: Pearson Correlations Matrix

Variables	CTA	IFRS	FIFRS	PIFRS	NIFRS	SIZE	LEV	CFO	BM	MK	RL
CTA	1.000										
IFRS	-0.075 (<0.0001)	1.000									
FIFRS	-0.084 (<0.0001)	0.940 (<0.0001)	1.000								
PIFRS	0.061 (0.0007)	-0.292 (<0.0001)	-0.601 (<0.0001)	1.000							
NIFRS	0.048 (0.0075)	-0.906 (<0.0001)	-0.708 (<0.0001)	-0.138 (<0.0001)	1.000						
SIZE	-0.093 (<0.0001)	-0.138 (<0.0001)	-0.160 (<0.0001)	0.126 (<0.0001)	0.086 (<0.0001)	1.000					
LEV	0.165 (<0.0001)	0.085 (<0.0001)	0.091 (<0.0001)	-0.058 (0.0006)	-0.060 (0.0004)	-0.002 (0.895)	1.000				
CFO	0.049 (0.016)	-0.174 (<0.0001)	-0.207 (<0.0001)	0.165 (<0.0001)	0.101 (<0.0001)	0.809 (<0.0001)	0.162 (<0.0001)	1.000			
BM	-0.138 (<0.0001)	0.174 (<0.0001)	0.201 (<0.0001)	-0.156 (<0.0001)	-0.116 (<0.0001)	-0.028 (0.164)	-0.039 (0.023)	-0.130 (<0.0001)	1.000		
MK	-0.067 (0.000)	-0.277 (<0.0001)	-0.396 (<0.0001)	0.461 (<0.0001)	0.082 (<0.0001)	0.330 (<0.0001)	-0.046 (0.006)	0.393 (<0.0001)	-0.140 (<0.0001)	1.000	
RL	-0.056 (0.892)	-0.182 (<0.0001)	-0.038 (<0.0001)	-0.319 (<0.0001)	-0.329 (<0.0001)	-0.125 (<0.0001)	0.024 (0.153)	-0.130 (<0.0001)	0.011 (0.420)	0.419 (<0.0001)	1.000

Notes: This table provides the correlation matrix for dependent, test and control variables. All variables are defined in Appendix A.

OLS Regression Results

In this study we estimate Model 1 using pooled Ordinary Least Squares (OLS) regression via the following regression specification:

$$CTA_{it} = \beta_0 + \beta_1 \text{Test Var.} + \sum_{j=1}^n \text{Control Vars.} + \varepsilon_{ijt} \quad (1)$$

Where, CTA represents the dependent variable of this study. IFRS is our test variable and takes three values: “1” for country-year with no IFRS-related activities; “2” for country-year with partial adoption (i.e., countries with convergence projects, countries allowing voluntary IFRS adoption, and countries requiring IFRS for some listed companies) and “3” for country-year with full IFRS adoption for listed firms (Ramanna and Sletten, 2014). We then convert the IFRS variable into three dichotomous variables. First, for NIFRS the non-adoption of IFRS takes the value of 1 for the country-year coded one as for IFRS and zero otherwise. Second, PIFRS represents the partial adoption of IFRS and takes the value of 1 for the country-year coded two as for IFRS and zero otherwise. Finally, FIFRS indicates Full IFRS adoption takes the value of 1 for the country-year coded three as for IFRS and 0 otherwise. Control variables include firm-specific characteristics comprising firm size (SIZE), Leverage (LEV), Operating Cash Flows (CFO), Book to market ratio (BM); country specific characteristics comprising market capitalization (MK), rule of law (RL), and both year and industry fixed effects.

Table 4 presents the results from pooled OLS regressions for the 2010-2016 periods. Column 1, Table 4, shows the results of testing H1. The results indicate the coefficient estimates on IFRS (the coefficient of interest) is negatively (-0.002) and statistically significant at the 1 percent level, suggesting the level of harmonization with IFRS has a significant effect on corporate tax avoidance activities. These results are in

line with prior studies (e.g. Amidu et al., 2016; Karampinis & Hevas, 2013; Kerr, 2013). However; it is not consistent with a number of researchers (e.g. Chan et al., 2010; Braga, 2017; Simone, 2015). Indeed, the negative association implies that firms that adopt higher level of harmonization with IFRS in the preparation of their financial reports engage less in tax avoidance activities, which is consistent with prior studies that find evidence of an improvement in reporting quality after IFRS adoption (e.g. Barth et al., 2008; Kerr, 2013). This, in turn, suggests that IFRS as a high-quality accounting standard "induced incentives to restrict (exacerbate) upward (downward) financial earnings management for tax purposes" (Karampinis & Hevas, 2013, p. 219).

The results for the control variables show that corporate tax avoidance (CTA) is negatively and significantly associated with SIZE, BM and MK at the 1 percent level. This implies that firms with large size and high book to market values are less likely to engage in tax avoidance activities, particularly in countries with developed markets, which is in line with prior study's findings (e.g. Balakrishnan et al., 2012; Karampinis & Hevas, 2013). Leverage (LEV) and cash flows (CFO), consistent with prior research (e.g. Amiram et al., 2011; Karampinis & Hevas, 2013), are found to have positive and significant relationship with CTA, suggesting that highly geared firms with high cash flows are more likely to engage in tax avoidance activities.

To deepen the results issued in Column 1, Column 2 of Table 4 tests for the effect of full IFRS adoption on CTA. Consistent with the results in Column 1, the coefficient of FIFRS is negative and significant at the 1 percent level (-0.003). Therefore, full IFRS adoption has a substantial impact on CTA, suggesting that firms that fully adopted IFRS are less likely to engage in tax avoidance activities. These results are in line with prior literature (e.g. Daske et al., 2013). Daske et al. (2013) which highlight that serious adopters (classified as adopters experience material changes and are not just adopting IFRS) are associated with better adoption benefits than label adopters (characterized by changing their accounting standards without material changes in their reporting incentives or behavior).

PIFRS is used to examine the effect of partial IFRS adoption on CTA. The positive coefficient of PIFRS, in Column 3 of Table 4, is significantly associated with CTA (0.003). The positive association between PIFRS and CTA suggests that tax avoidance is not only driven by engagement in tax avoidance activities through accruals management, but also by other mechanisms that do not involve accruals. Thus, adopting IFRS with modifications may significantly be harmful to reporting quality (Othman and Kossentini, 2015). Finally, Column 4 of Table 4 reports the results of testing the effect of NIFRS on CTA. The coefficient of NIFRS continues to be positive but less significant at the 5 percent level, which implies that firms that do not adopt IFRS in the preparation of their financial reports engage more in tax avoidance activities. This finding is consistent with supporters of IFRS adoption that highlight the benefits of IFRS adoption including the improvement of earnings property where firms exhibit lower levels of earnings management and more timely loss recognition (Armstrong et al., 2010; Horton et al., 2013). The results of control variables, in Columns 2, 3 and 4, remain qualitatively similar to those reported in Column 1, except the RL variable in Column 3 which is significant at the 5% level, indicating that tax avoidance is lower in countries with high level of enforcement (measured by rule of law), which is consistent with prior studies (Tang, 2015).

Table 4: Ordinary Least Square Regression for IFRS Adoption (Dependent Variable is CTA)

$CTA_{it} = \beta_0 + \beta_1 \text{Test Var.} + \sum_{j=1}^n \text{Control Vars.} + \varepsilon_{ijt}$ Model (1)				
Variables	1	2	3	4
Intercept	0.045 (6.92)***	0.047 (7.68)***	0.028 (5.47)***	0.029 (5.18)***
IFRS	-0.002 (-5.45)***			
FIFRS		-0.003 (-6.68)***		
PIFRS			0.003 (5.73)***	
NIFRS				0.001 (2.55)**
SIZE	-0.001 (-8.52)***	-0.001 (-8.50)***	-0.001 (-8.44)***	-0.002 (-8.51)***
LEV	0.002 (5.21)***	0.001 (5.48)***	0.001 (5.05)***	0.002 (4.79)***
CFO	0.001 (9.13)***	0.002 (9.14)***	0.001 (9.22)***	0.001 (9.15)***
BM	-0.000 (-4.94)***	-0.000 (-4.57)***	-0.000 (-4.96)***	-0.000 (-5.43)***
MK	-0.001 (-6.96)***	-0.001 (-7.91)***	-0.001 (-6.64)***	-0.001 (-5.47)***
RL	-0.020 (-1.56)	-0.013 (-1.09)	-0.025 (-2.00)**	-0.010 (-0.68)
Year fixed effect [#]	yes	yes	yes	yes
Industry fixed effect [#]	yes	yes	yes	yes
Pseudo-R ²	10.95	11.72	11.08	10.00
N	3,393	3,393	3,393	3,393
F-value	9.13***	42.14***	39.63***	35.45***

This Table presents the results from pooled OLS regression of Tax Avoidance on IFRS adoption measures (test variable) and control variables for the sample of firm-year observations over the period 2010 to 2016 (t-statistic in parentheses). All variables are defined in Appendix A. #The coefficients are not reported for brevity. *, **, *** indicate significance at the 10%, 5%, 1% level, respectively

H2 examines whether firms reporting losses influence the results reported in Table 4. To test H2 we re-estimate model (1) using (OLS) regression via the following regression specification:

$$CTA_{it} = \beta_0 + \beta_1 IFRS_{it} + \beta_2 LOSS_{it} + \beta_3 LOSS * IFRS + \sum_{j=1}^n \text{Control Vars.} + \varepsilon_{ijt} \quad (2)$$

Where, CTA represents the dependent variable of this study. IFRS is the variable capturing IFRS adoption, while LOSS is a dummy variable, which equals one if the firm's income before extraordinary items is less than zero and zero otherwise. LOSS*IFRS is the interactive term of the variable capturing the Losses (LOSS) with the variable capturing IFRS adoption and representing the test variable. Control variables remain similar to those used in Model (1).

Table 5, Column 1 shows that the coefficients on both LOSS*IFRS and LOSS variables are not significant. Consistent with the results in Table 4, Columns 1 and 2 coefficient estimates on IFRS continue to be negative (-0.001) and statistically significant at the 1 percent level, suggesting that high level of harmonization with IFRS improves firms reporting quality. However, these results are not in line with H2, which is unexpected. However, these results are in line with the univariate tests in section 5.1 that show only 17.88 percent of sample firms report losses. Therefore, H2 is rejected in the context of firms reporting losses in the GCC countries.

H3 extends Model (1) to include the effect of two governance mechanisms comprising institutional ownership (PIH) and Big N (BIGN). To test H3 we re-estimate model (1) using (OLS) regression via the following regressions specification:

$$CTA_{it} = \beta_0 + \beta_1 IFRS_{it} + \beta_2 PIH_{it} + \beta_3 PIH * IFRS + \sum_{j=1}^n \text{Control Vars.} + \varepsilon_{ijt} \quad (3)$$

$$CTA_{it} = \beta_0 + \beta_1 IFRS_{it} + \beta_2 BIGN_{it} + \beta_3 BIGN * IFRS + \sum_{j=1}^n \text{Control Vars.} + \varepsilon_{ijt} \quad (4)$$

Where, CTA represents the dependent variable of this study. IFRS is the variable capturing IFRS adoption. PIH is a dummy variable, which equals one if the percentage of common shares held by institutions over the sample period is above 50%, and zero otherwise. BIGN is a dummy variable coded one if firm i uses the services of a Big N auditors, and zero otherwise. PIH*IFRS and BIGN*IFRS are interactive terms of the variables capturing the institutional ownership (PIH) with the variable capturing IFRS adoption and auditor quality (BIGN) with the variable capturing IFRS adoption, respectively. Control variables remain similar to those used in Model (1).

Table 5: Results of Testing H2 and H3

$CTA_{it} = \beta_0 + \beta_1 IFRS_{it} + \beta_2 LOSS_{it} + \beta_3 LOSS * IFRS + \sum_{j=1}^n \text{Control Vars.} + \varepsilon_{ijt}$ (Model 2)			
$CTA_{it} = \beta_0 + \beta_1 IFRS_{it} + \beta_2 PIH_{it} + \beta_3 PIH * IFRS + \sum_{j=1}^n \text{Control Vars.} + \varepsilon_{ijt}$ (Model 3)			
$CTA_{it} = \beta_0 + \beta_1 IFRS_{it} + \beta_2 BIGN_{it} + \beta_3 BIGN * IFRS + \sum_{j=1}^n \text{Control Vars.} + \varepsilon_{ijt}$ (Model 4)			
Variables	1	2	3
Intercept	0.041 (6.49) ***	0.045 (6.92) ***	0.044 (7.12) ***
IFRS	-0.001 (-4.70) ***	-0.001 (-3.25) ***	-0.002 (-4.56) ***
LOSS	-0.002 (-0.84)		
IFRS*LOSS	-0.001 (-1.34)		
PIH		-0.000 (-0.33)	
IFRS*PIH		-0.000 (-0.41)	
BIGN			-0.000 (-0.11)
IFRS*BIGN			0.000 (0.29)
Control	Yes	Yes	Yes
Year fixed effect [#]	Yes	Yes	Yes
Industry fixed effect [#]	Yes	Yes	Yes
Pseudo-R ²	13.26	11.09	10.89
Sample size	3,393	3,393	3,393

This table presents the results of testing H2 and H3 (t-statistic in parentheses). Column (1) shows results of testing Model (2), Columns (2) and (3) report results of testing Models (3) and (4), respectively. All variables are defined in Appendix A. #The coefficients are not reported for brevity. *, **, *** indicate significance at the 10%, 5%, 1% level, respectively

Table 5, Column 2 shows that the coefficients on both PIH*IFRS and PIH are not significant. In line with these findings Table 5, Column 3 results indicate that the coefficients estimate on both BIGN*IFRS and BIGN are insignificant. Meanwhile, the coefficient on IFRS remains in columns 2 and 3 negative and significant at the 1 percent level (-0.001) and (-0.002), respectively. These results contradict the traditional view of corporate governance as external monitors (i.e. institutional ownership and Big N) suggested by prior studies (e.g. Fernando et al., 2012; Velury & Jenkins, 2006; Taylor & Richardson, 2013), while it is in line with current studies (e.g. Khan et al., 2017; Jones et al., 2018). For instance, Khan et al. (2017) note that an increases in institutional ownership concentration in U.S. companies are associated with an increases in tax avoidance, however, they suggest that promoting of tax avoidance activities by institutional owners

is unlikely to be directly related. Instead they encourage this incentive indirectly by demanding better firm financial performance or by using private communication to achieve the same effect. Moreover, Jones et al. (2018, p. 175) highlight the role of the large accountancy firms as tax advisors, showing that "these firms do not market tax avoidance schemes but also create schemes tailored for individual clients". Thus, in the context of GCC countries, institutional ownership and Big N auditors, as external governances play a negative role in monitoring managerial activities including the tax function.

Alternative Models

To mitigate the possibility of any validity threats relating to using appropriate and relevant techniques to address research questions two other models were estimated in addition to the OLS model. First, we use logistic regression following Taylor and Richardson (2013). We used as dependent variable 2171 matched-pairs of high and low corporate tax avoidance firm-year observations. We convert the continuous measure of corporate tax avoidance into a dummy variable, where CTA = 0 if the CTA is above the median (indicate high corporate tax avoidance activities), and CTA = 1 if the CTA is below the median (indicate low corporate tax avoidance activities). The results (see Panel A of Table 6) indicate a negative and significant coefficient for IFRS (-0.809, p-value= <.0001). This suggests that firms with lower (relative to higher) corporate tax avoidance activities have higher level of harmonization with IFRS (full adopters of IFRS). Overall results from the logistic model yield similar conclusions to those from the OLS model, thus providing additional support for H1.

Table 6: Alternative Models

Panel A: Logistic Regression			
Variables	Coefficient	t-stat	p-value
Intercept	6.215	13.066	0.0003
IFRS	-0.809	102.110	<0.0001
SIZE	-0.244	26.306	<0.0001
LEV	0.002	0.001	0.9831
CFO	0.226	33.227	<0.0001
BM	-0.043	30.338	<0.0001
MK	-0.101	3.799	0.0513
RL	-2.277	0.453	0.5009
Pseudo-R ²	14.60		
The likelihood ratio	251.6383***		
Wald Chi-square	209.4698***		
Panel B: Quantile Regression			
	Coefficient	t-stat	p-value
OLS	-0.00156	-5.45	<0.0001
Quantile			
Q10	-0.00065	-4.06	0.0000
Q20	-0.00104	-4.86	0.0000
Q30	-0.00173	-12.04	0.0000
Q40	-0.00189	-10.61	0.0000
Q50	-0.00246	-8.56	0.0000
Q60	-0.00229	-8.62	0.0000
Q70	-0.00282	-5.22	0.0000
Q80	-0.00387	-7.46	0.0000
Q90	-0.00394	-8.54	0.0000
Pseudo-R ²	33.19		
F-value	153.57***		

*This table presents the results from logistic regression of Tax Avoidance on IFRS adoption and control variables in panel A, and Quantile regression in panel B. All variables are defined in Appendix A. # *, **, *** indicate significance at the 10%, 5%, 1% level, respectively*

Second, quantile regression is estimated to examine the relationship between corporate tax avoidance and the level of harmonization with IFRS. Armstrong et al. (2015) asserted that using traditional econometric methods (i.e., ordinary least squares regression) describes the relation between independent variables and the conditional mean of the dependent variable of interest, while quantile regression is more general and describes the relation between the independent variables and any specified percentile of the conditional distribution of the dependent variable. Hence, we expect the relation between various level of harmonization with IFRS and corporate tax avoidance will differ at relatively high and low levels of tax avoidance. In particular, full harmonization with IFRS (high reporting quality and high transparency) should encourage more tax planning at lower levels of tax avoidance and discourage additional tax avoidance when the level is high.

Table 6, Panel B, reports the results of testing differences in coefficients of IFRS across the quantiles, the coefficient at the 90th percentile (-0.0039) is significantly more negative than the coefficient at both the 50th percentile (-0.0025) and the 10th percentile (-0.0006). This result indicates that IFRS adoption does not have a uniform relation with corporate tax avoidance, but that the relation differs according to the level of tax avoidance. More precisely, full harmonization with IFRS discourages engagement in tax avoidance activities through accruals management. Moreover, plots the quantile regression coefficients estimates from Table 6 Panel B (Unreported), shows the relation between IFRS and tax avoidance is generally negative and increasing in magnitude in the right tail of the CTA distribution. Overall, the results suggest that quantile estimate provides evidence of the relationship between harmonization level with IFRS and CTA at other points of the tax avoidance distribution, thus it is more representative compare to OLS model (at the conditional mean of CTA) and logistic model (above and below the median of CTA).

Sensitivity Tests

Bae (2017) reports that CTA (book-tax gaps) measurement has limitations in representing pure tax avoidance, in that, it includes not only opportunistic tax behaviors but also aggressive financial reporting. Thus, to mitigate the possibility of any validity threats relating to Corporate Tax Avoidance (CTA) measurement, the main model (OLS) is re-estimated using different measures of CTA including the GAAP effective tax rate (ETR) (Khan et al., 2017). ETR is widely used as a tax avoidance measure. Further, Hanlon and Heitzman (2010, p. 35) highlight that "the effective tax rate, even if measured over the long run, reflects all of transactions that have any effect on a company's tax liabilities and do not distinguish between real activities that have tax benefits, activities carried out specifically to reduce taxation, and tax benefits obtained via lobbying activities". ETR is the tax expense as a percent of pre-tax income. Then ETR multiply by (-1) so that an increase in ETR reflects an increase in (CTA).

The results (Untabulated) show that the coefficient on IFRS (-0.036) continues to be negative and significant at the 1 percent level (t-statistic = -5.73, p-value= <.0001), implying that the main results are sensitive to different measure of corporate tax avoidance. Moreover, Atwood et al. (2012) argue that there can be a significant variation from one year to the next in the effective tax rate and that considering annual tax avoidance does not minimize the effects of items that are reversed in only one year. Based on this argument, the ETR variable is re-estimated over three years. The results (Untabulated) show that the coefficient of IFRS (-0.036) remains constant (t-statistic = -4.33, p-value= <.0001), indicating that firms that did not participate in tax avoidance activity in the previous period are less likely to engage in this activity in the current and subsequent period, which is consistent with previous studies (e.g. Amidu et al., 2016).

Further, because CTA is measured at firm- level, while IFRS effects in the models are measured at country-year level. Ramanna and Sletten (2014) suggest that firm-level measure of IFRS adoption highlights the benefits of voluntary IFRS adoptions that firms could reflect in reporting quality which in turn can be very important deterrent of government decision to allow or require it in the future. Thus, we re-estimate Model

(1) using firm-level measure of IFRS adoption as another sensitivity test. We measure IFRS as a dichotomous variable taking the value of 1 if firm adopting IFRS and 0 otherwise (Barth et al., 2008). The coefficient on IFRS (-0.002) remains negative and significant at the 1 percent level (t-statistic = -4.47, p-value = <.0001), implying that the main results are sensitive to firm-level measure of IFRS.

Finally, given that the harmonization level with IFRS varies across GCC countries during the sample period, in most of these countries banks are required to mandatory adopt IFRS earlier than non-financial firms (i.e. Qatar, Saudi Arabia, and UAE). Thus, the OLS regression is re-estimated after excluding financial institutions (the initial sample is reduced by 1116 firm-year observations). Untabulated results show that the coefficient on IFRS remains in the same direction (-0.001) and significant at the 1 percent level, implying that firms from financial institutions do not derive the results.

Implications of the Results

The findings of this study have implications for researchers and policy makers. First, it expands existing literature on tax avoidance by providing insights to market regulators and researchers of the complexity and ambiguity of tax avoidance activities in an IFRS setting. These inferences enhance the current debate concerning pros and cons of IFRS adoption to developing countries (e.g. Ballas et al., 2010; Tyrrall et al., 2007). It also seeks to clarify the mixed finding of the prior literature on the economic consequences of IFRS adoption.

Further, the results from this study contain value relevant information useful to tax authorities and investors. Revisiting the links between IFRS adoption and tax function provides some promising changes that can influence the design of information systems and tax administration. To sum up, it encourages reliance on book-tax conformity whenever possible. This, in turn, can have significant benefits such as reducing compliance costs and tax rates. Therefore, a legislative effort to enforce IFRS compliance for tax purposes looks necessary.

Similarly, investors must consider how to evaluate tax avoidance activities to ensure that shareholders' interests are being served, particularly in term of recent market valuations view of tax avoidance that no longer recognize tax as a transfer of value from the state to shareholders (Desai & Dharmapala, 2009). This in turn, increases the monitoring role of managers, shareholders and boards that highlights the importance of reviewing and supervising tax activities within firms.

CONCLUSION

We examine the impact of IFRS adoption on accounting quality to explain a firm's level of tax avoidance and to determine whether corporate tax avoidance activities vary across the harmonization level with IFRS. Our results show that higher level of harmonization with IFRS in the preparation of financial reports implies less tax avoidance activities. These results are consistent with prior studies that find evidence of an improvement in reporting quality after IFRS adoption (e.g. Barth et al., 2008; Karampinis & Hevas, 2013; Kerr, 2013). Meanwhile, results from the logistic model and quantile model yield similar conclusions to those from the OLS model, thus providing additional support for the main expectation.

The results of investigation whether the strength of the relationship between IFRS and CTA is affected by firms' characteristics (i.e. reporting losses, institutional ownership concentration, and Big N), suggest that, in the context of GCC countries, firms' characteristics are a weak indicators of corporate tax avoidance. Specifically, institutional ownership and Big N auditors, as external governances play a negative role in monitoring managerial activities including the tax function. Finally, the findings are robust with respect to different measures of corporate tax avoidance and IFRS adoption.

This study had some limitations. First, the study period may be problematic in that it covers only seven years. Prior studies highlight the importance of using longer period which might give a better picture concerning the outcomes of IFRS adoption, since it allows long-term implementation and enables managers to act opportunistically in anticipation of certain IFRS effects. Therefore, future research can extend the study period to cover more than seven years, to better understand the impact of IFRS on CTA. Second, GCC countries that adopted IFRS are still using IAS, thus it is very hard to determine whether the impact that had been seen in the results relates to only an IFRS effect. Third, the study inferences are limited because variation in firms' harmonization level with IFRS may not be exogenous with respect to their level of tax avoidance. Therefore, there is a possibility of reverse causality and correlated omitted variables.

Appendix A: Description of Variables

Dependent Variable	
Corporate Tax Avoidance (CTA)	Is the residual from regressing book-tax gaps (measured as pre-tax income less taxable income, scaled by the lagged value of total assets) on the absolute value of performance-adjusted abnormal accruals (Kothari et al., 2005).
Independent Test Variable	
IFRS	Is an ordinal variable and takes three values: "1" for country-year with no IFRS-related activities; "2" for country-year with partial adoption (i.e., countries with convergence projects, countries allowing voluntary IFRS adoption, and countries requiring IFRS for some listed companies) and "3" for country-year with full IFRS adoption for listed firms (Ramanna and Sletten, 2014).
NIFRS	The non-adoption of IFRS measured by a dummy variable that takes the value of 1 for the country-year coded one as for IFRS and 0 otherwise.
PIFRS	The partial adoption of IFRS measured by a dummy variable that takes the value of 1 for the country-year coded two as for IFRS and 0 otherwise.
FIFRS	The Full IFRS adoption measured by a dummy variable that takes the value of 1 for the country-year coded three as for IFRS and 0 otherwise.
Control Variables	
<u>Firm-specific characteristics:</u>	
Firm size (SIZE)	Natural log of total assets at the end of the year t
Leverage (LEV)	Total debt divided by total assets at the end of year t
Operating Cash Flows (CFO)	Natural log of cash flow from operations divided by total assets at the end of the year t
Book to market ratio (BM)	The book value of equity divided by the market value of equity at the end of the year t
<u>Country specific characteristics:</u>	
Market Capitalization (MK)	Natural log of market capitalization as a percent of the growth domestic product (GDP) in U.S. dollars
Rule of Law (RL)	Score of -2.5 to 2.5 from Kaufmann et al. (2014) where higher values represent stronger quality of enforcement, measured as of sample period from 2010 -2016.
<u>Industry and year controls:</u>	
Industry fixed effects	Categorical variable to classify the firm's industry based on Fama and French's (1997) 48 industry groups
Year fixed effects	Categorical variable to control for year fixed effects
Other Variables	
Institutional ownership (PIH)	Dummy variable coded (PIH =1) if the percentage of common shares held by institutions over the sample period is above 50%, and (PIH =0) otherwise
Auditors quality (BIGN)	Dummy variable coded (BIGN=1) if the firm i uses the services of a Big N auditors, and (BIGN=0) otherwise
Losses ratio (LOSS)	Dummy variable coded (LOSS=1) if the firm i reports negative income before extraordinary items in year t, and (LOSS =0) otherwise
LOSS*IFRS	The interactive term of the variable capturing the Losses (LOSS) with the variable capturing IFRS adoption
PIH*IFRS	The interactive term of the variable capturing the institutional ownership (PIH) with the variable capturing IFRS adoption
BIGN*IFRS	The interactive term of the variable capturing the Auditors quality (BIGN) with the variable capturing IFRS adoption

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