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The Governance of Offshore Firms: Implications for Financial Reporting and Firm Value

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A Thesis
in
The John Molson School of Business

Presented in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy at
Concordia University
Montreal, Quebec, Canada

December 2009

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ISBN: 978-0-494-67331-7
Our file Notre référence
ISBN: 978-0-494-67331-7

Abstract

The Governance of Offshore Firms: Implications for Financial Reporting and Firm Value

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This study explores the quality of financial reporting, which is measured by earnings management, and the valuation of firms that operate in offshore financial centers (OFCs). First, I investigate whether offshore firms engage in more earnings management than non-offshore firms, and how the use of OFCs facilitates earnings management. Second, through an event study and other valuation methodologies, I analyze the short- and long-run value implications for firms that have transferred to, or set up affiliates or registered in OFCs. On the one hand, from an investor's perspective, an offshore firm can garner tax avoidance or deferral benefits, thus increasing its value. On the other hand, many OFCs have relatively loose legal regimes, flexible regulations, secrecy policies and the tolerant of economic crimes (Masciandaro (2006)). Under these conditions, investors may face increased risks of poor corporate governance and managerial expropriation of resources, which undermine a firm's value.

Using a large sample of 10,553 offshore firm-year observations in 21 OFCs from 1998 to 2007, compared to a non-offshore sample with 30,621 firm-year observations in 37 countries and jurisdictions, I find that offshore firms engage in more earnings management than non-offshore firms, with OFCs facilitating both accruals and real earnings management. Moreover, offshore firms are more likely to have higher value than non-offshore firms largely because of their tax benefits. However, the valuation gap between offshore and non-offshore firms has decreased significantly after a series

of scandals involving OFCs, such as Enron and Parmalat, which have occurred since 2001, indicating that investors of offshore firms pay more attention to governance mechanisms instead of the tax avoidance benefits.

In addition, I document that an increase in offshore characteristics, which are measured by the Offshore Attitude Indexes, translates into offshore firms being more likely engage in accruals management rather than real earnings activities. In contrast, firm value is more likely to decrease. Finally, my analysis provides evidence that the enactment of the Sarbanes-Oxley Act (SOX) has significantly reduced accruals management and firm value of offshore firms that are listed or cross-listed in the U.S. stock markets.

This study extends prior research on international financial reporting and firm value into new territory and provides novel insights into the interface between a firm's legal regime, its governance structures and its value and financial reporting quality.

Key Words: Offshore Financial Centers, Offshore Firms, Earnings Management, Firm Value, International Corporate Governance, Tax Avoidance, Legal Regimes.

Acknowledgements

Looking back my four and half years as a doctoral student I would have been very lonely and isolated without all the support of many people. First of all, I would like to thank my dearest daughter, Cameo. Although she was only five years old when I began my Ph.D studies, her lovely eyes and innocent smiles always inspired me to keep going. When I was upset and frustrated, she told me "Mom, just crush it!" I also owe my gratitude to my boyfriend Colin Thomson. I could not have finished my thesis without his support. He stood by me to comfort my tears, he shared my joys and sorrows, he always believed in me. He also spent countless time and energy proofreading every word in my thesis and all things related to it. Even though he will laugh, I would like to say "thank you so much" to him for being there and sharing my life.

I deeply appreciate my supervisor, Professor Michel Magnan, for his kindness, his open mind, his availability, and his continual guidance and support for my Ph.D study and research. It was Michel who helped me, step by step, to construct a solid foundation in research that will serve me well in the future. It was also Michel who encouraged me to develop my initial idea into a complicated dissertation. I was also very fortunate to have Professor Art Durnev as my committee member. Art provided constructive guidance for my thesis. His open-mindedness and pursuit of excellence has had a direct impact on my current and future research. Furthermore, I am equally grateful to Professor Harjeet Bhabra, Professor Jeong-Bon Kim, and Professor Liandong Zhang who served on my dissertation committee and helped me to improve my studies in many ways.

I would also like to thank my Ph.D. colleagues: Jun Zhan, Yaqi Shi, Mingzhi Liu,

Ying Zhang, Hani Tadros, Haiping Wang, Qianying Shan, Byron Song, Lou He, Wenxia Ge, and Michelle Rodrigue. In their company, my Ph.D. journey was full of warmth and joy. In addition, I would like to say how grateful I am to the whole community at John Molson School of Business, especially Kara Fada and Heather Thomson, for their genuine help.

Finally, I would like to express love and thanks to my parents. Although they did not understand why I gave up all the good things I had in China to study overseas, I know they still support me in their hearts. This dissertation is dedicated to them, and to my daughter!

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Chapter 1 – Introduction

This thesis explores if firms' reliance on Offshore Financial Centers (OFCs)[1] affects their firm value and the quality of financial reporting. With the globalization of capital and product markets, there is a growing trend by many organizations, financial as well as non-financial, to conduct financial and commercial operations through Offshore Financial Centers. Many companies are directly registering in OFCs such as Bermuda, the British Virgin Islands (BVI) and the Cayman Islands, while others are transferring their headquarters there, and multinationals are increasingly setting up affiliates in OFCs. For example, the British Virgin Islands is the home to about 700,000 offshore companies.[2] According to the Organization for Economic Co-operation and Development (OECD), by 2006, offshore holdings managed five to seven trillion U.S. dollars, which is five times the amount of two decades ago, representing six to eight percent of worldwide wealth under management. Further, one of OFCs, the Cayman Islands, a group of small islands in the Caribbean, is the world's fifth-largest banking centre, managing 1.4 trillion U.S dollars in assets.

This trend of firms' migrating to, or registering or setting up affiliates in OFCs may be caused by their desire to avoid tax and reduce litigation risks, since most OFCs have zero or low taxation, loose legal regimes, flexible regulations and confidentiality policies (Masciandaro (2006), IMF surveys).[3] Furthermore, the legal

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[1] Although there is no "precise" definition of OFCs, I follow the definition of International Monetary Fund (IMF)of OFCs as:
"1) Jurisdictions that have relatively large numbers of financial institutions engaged primarily in business with non-residents; and
2) Their financial systems with external assets and liabilities out of proportion to domestic financial intermediation designed to finance domestic economies; and
3) More popularly, centers which provide some or all of the following services: low or zero taxation; moderate or light financial regulation; banking secrecy and anonymity."
http://www.internationalmonetaryfund.com

[2] *The Economist* February 22, 2007 Survey.

[3] The institutional background of OFCs is described in Chapter 2.

structure of a firm which is registered or has affiliates in OFCs is a multi-tiered configuration encompassing its country of listing, its country or jurisdiction of incorporation, and the countries in which it conducts business or financial affairs. Offshore firms[4] can use this multi-tiered legal structure to change their corporate governance mechanisms.

However, the unique institutional environment of OFCs, combined with the complex multi-tiered legal structure of offshore firms may reduce the quality of financial reporting and firm value of offshore firms. Firstly, operating under the looser legal regimes of OFCs and their flexible regulations which lead to poor investor protection, firms are more likely to manage their earnings (Leuz, Nanda and Wysocki (2003)), even U.S. firms that have affiliates in OFCs (Type II offshore firms). In addition, although offshore firms enjoy tax avoidance or deferral benefits which supposedly transfer value to shareholders, their poor investor protection may to some extent offset their tax benefits, especially after the series of financial scandals related with OFCs that have occurred since 2001. These scandals, involving firms such as Enron and Parmalat, reveal that offshore affiliates or subsidiaries can be used to manipulate earnings and expropriate public shareholders' wealth. For example, Enron's more than 700 affiliates in the Cayman Islands allowed its management not only to minimize taxes but also to inflate earnings. Enron moved its debts to offshore partnerships to keep them off its balance sheet. In addition, Enron's opaque financial information about hundreds of its offshore affiliates allowed it to artificially inflate its profits, mostly through related party transactions, substantially increasing the firm's stock market value, while its insiders exercised their options, reaping gains of

[4] In this thesis I define two types of offshore firms. Type I offshore firms are firms that are registered in OFCs, while Type II offshore firms are firms that have affiliates in an OFC or OFCs.

hundreds of millions of dollars.[5]

Secondly, using accruals management along with tax sheltering, managers can significantly increase after tax earnings and in turn increase their bonuses several times compared to only using tax sheltering, where the tax costs are quite small (Desai and Dharmapala (2009a)). Thus, managers of offshore firms might have high incentives to manage their earnings based on tax avoidance. Finally, the secrecy policies of most OFCs largely increase the offshore firms' information asymmetry between shareholders and managers of offshore firms, making it easier and less risky for managers to manage earnings (Bhattacharya et al. (2003)). The increased information asymmetry may also negatively affect offshore firms' value (e.g. Kasznik and Lev (1995), and Frankel, McNichols, and Wilson (1995)).

Anecdotally, the opaque and poor financial reporting of many offshore firms has enabled them to evade paying taxes and to loot money from investors. In May 2009, the White House responded with a plan to reform regulations in order to curb tax evasion and eliminate loopholes for the "disappearing" offshore affiliates of U.S. firms. In addition, on April 2 of 2009, G20 countries issued a declaration to increase global cooperation in attacking tax evasion and assets loss. Thus, the issues concerning offshore firms, specifically the quality of accounting information and firm value are important and fundamental for academia, practitioners and regulators.

However, in terms of offshore firms, there is little relevant literature (e.g. Altshuler and Grubert (2003), and Desai, Foley and Hines (2002)). Even in the limited number of published academic studies on offshore firms, researchers have mainly concentrated on the tax evasion function. Accordingly, this thesis addresses three perspectives to bridge the gaps in the understanding of offshore firms. Firstly, I

[5] Data source: http://www.sec.gov/news/

investigate the specific characteristics of OFCs and qualitatively analyze their impact on offshore firms. The second perspective is whether or not the ease of engaging in earnings management underlies firms operating in OFCs (incorporation, subsidiaries or affiliates), and how offshore firms manage their earnings. The third perspective relates to the value implications on the reliance on OFCs by a firm. In other words, what is the market reaction to a firm's announcement of its transfer to or setting up an affiliate in an OFC after 2002 since a series of financial scandals involving OFCs have occurred? Are offshore firms worth more than non-offshore firms in the long-run if market participants consider the influence of the characteristics of OFCs, along with offshore firms' complex legal structures rather than only the tax benefits, especially after the financial scandals that occurred at Enron and Parmalat? And how has SOX affected offshore firm value and their quality of financial reporting?

Figure 1 shows the research framework of my dissertation. To explore these three perspectives, I first analyze the features of OFCs and then define and identify offshore firms. Within an international context, my thesis focuses on listed firms that register their headquarters or affiliates in twenty one OFCs, such as the Bahamas, Bermuda, the British Virgin Islands, the Cayman Islands, and Panama. In addition, offshore firms with affiliates (instead of headquarters) in OFCs are limited to the U.S. and the U.K. firms that are listed on the U.S. stock markets (such as NASDAQ, the New York Stock Exchanges) and the London Stock Exchanges since many large multinational firms emanate from the U.S. and the U.K.[6]

After I obtain an offshore and non-offshore sample, I compare the quality of financial reporting between offshore and non-offshore firms. Specifically, I focus on whether the ease of earnings management is related to offshore firms and expect that

[6] IMF 2000 survey "Offshore Financial Centers: IMF Background Paper". IMF website: http://www.internationalmonetaryfund.com

there is a positive relationship between the two. Besides exploring the quality of financial reporting of offshore firms, a novel feature of this study is to thoroughly investigate how offshore firms manage their earnings. Current literature (Roychowdhury (2006), Graham, Harvey and Rajgopal (2005)) illustrates that not only accruals but also real earnings activities distort the quality of financial reporting. Therefore, I examine both accruals and real earnings activities of offshore firms, predicting that as an OFC exhibits more OFC characteristics, measured by the Offshore Attitude Indexes,[7] its firms may prefer accruals management rather than real earnings activities. Because offshore firms in OFCs with high Offshore Attitude Indexes can easily avoid or evade the scrutiny of regulators and external auditors, their litigation costs of earnings management are relatively small. Another reason may be any upward earnings management is unlikely to be subjected to a tax burden.

Through an event study and other valuation testing methodologies, I examine the value implications for firms' transferring to or setting up affiliates in OFCs. In my long-run analysis, I estimate primary regressions in which Tobin's Q (Q) and industry adjusted Tobin's Q (IAQ) are proxies for firm value. Offshore firms can garner some tax benefits for their investors, but because of the specific characteristics of most OFCs (Masciandaro (2006)), such as loose legal regimes, flexible regulations and secrecy policies, investors may face the increased risks of poor corporate governance and the expropriation of resources by insiders (managers or controlling shareholders). Enron and Parmalat, which used offshore affiliates to expropriate public shareholders wealth, are good examples of such potential problems. After the series of scandals since 2001 that subsequently led to the enactment of SOX, I predict that in the

[7] The Offshore Attitude Indexes (OFCINDEX) is a comprehensive code of tax havens, the legal regimes, potential national benefits, political stability, and economic crime pollution for OFCs (Masciandaro's (2006)). With higher Offshore Attitude Indexes indicates that in an OFC there are zero or low taxation, looser legal regime, flexible regulations, unstable policies and more economic crimes.

short-run the markets do not react positively if a firm announces its transfer to or setting up an affiliate in an OFC. In the long-run, offshore firms may be worth more than non-offshore firms because of the tax avoidance benefits. However, the valuation gap is more likely to narrow after the series of financial scandals that have occurred since 2001.

The series of financial scandals both in the U.S. (e.g., Enron) and abroad (e.g., Parmalat) spurred the SEC exerting SOX in 2002 to enhance firms' corporate governance and financial reporting quality. The changes mandated by SOX are broad and deep because many countries also strengthened their regulations following the U.S. Nevertheless, it is unclear whether the enforcement of SOX also impacts on offshore firms, such as on their financial reporting quality and valuation. My sample period is from 1998 to 2007. The large sample, drawn over a long time period, allows me to compare the earnings management and firm value of offshore firms that are listed or cross-listed in the U.S. stock markets for pre- and post- SOX periods.

[INSERT FIGURE 1 HERE]

Consistent with prior studies (Leuz, Nanda and Wysocki (2003), Zang (2007), Cohen, Dey and Lys (2008), Desai and Darmapala (2009a)), I find that offshore firms are more likely to engage in earnings management than non-offshore firms in both accruals and real earnings management, providing evidence for my argument that offshore firms (including Type I and Type II offshore firms) take advantage of OFCs in managing earnings. The results hold after controlling for self-selection bias and other variables related to the proxies of earnings management. In addition, I split the offshore sample into Type I and Type II offshore firm sub-samples, and then compare the proxies of accruals and real earnings management of Type I and Type II offshore

firms to non-offshore firms, respectively. Results are further supported by the tests using the sub-samples.

According to the results of event study, market investors in the short-run do not have significantly positive reactions to an announcement that a firm is going to merge a company in or migrate to an OFC after 2002, most likely because investors not only look at tax benefits but are also concerned about other perspectives related with a firm being offshore. In the long-run, offshore firms (including Type I and Type II offshore firms) have higher value than non-offshore firms. However, this valuation gap between offshore and non-offshore firms significantly decreased after the series of financial scandals have occurred since 2001. Furthermore, results are interesting when I separate the full offshore sample to sub-samples of Type I and Type II offshore firms and compare the value of Type I and Type II offshore firms to that of non-offshore firms, respectively. Results show that the value of Type I offshore firms (which are registered in OFCs) are significantly less than those of non-offshore firms but the value of Type II offshore firms (which set up affiliates in OFCs but are registered in the U.S and the U.K) are significantly higher than those of non-offshore firms. But after 2002, the valuation gap between Type II and non-offshore firms has significantly decreased. Thus, the evidence indicates that although corporate tax shelters should supposedly increase firm value, investors also consider investor protection related to the original institutional environment of firms (LaPorta et al. (2002), and Shleifer and Wolfenzon (2002)). The tax benefits of Type I offshore firms are offset by the high risks of poor corporate governance and the expropriation of resources by insiders because Type I offshore firms have relatively higher Offshore Attitude Indexes that reflect loose legal regimes, flexible regulations, more economic crimes and secrecy policies of OFCs than those of Type II offshore firms. Thus,

although Type I offshore firms have lower average corporate tax rates than Type II offshore firms, the tax garnered is significantly offset by their poor corporate governance and the risks of insider expropriation. However, this is not the whole story. The series of financial scandals that have occurred since 2001 seems to have led investors to reevaluate the complex corporate structures of offshore firms, especially Type II offshore firms, rather than just considering the legal origins of these companies, leading to a significant narrowing of the valuation gaps between offshore and non-offshore firms. After examining the self-selection bias and controlling for other variables related to firm value, results still hold.

Moreover, offshore firms in OFCs with higher Offshore Attitude Indexes are more likely to manage their earnings by accruals rather than real activities, and their firm value is lower than offshore firms in OFCs with lower Offshore Attitude Indexes as well. Finally, results suggest that after the enactment of SOX, accruals management by offshore firms that are listed or cross-listed in the U.S. stock markets has markedly declined, while these firms have not seemed to increase significantly their real earnings activities except for production costs. In terms of firm value, SOX also significantly decreases the value of offshore firms that are listed or cross-listed in the U.S. stock markets.

This study contributes to the current literature in two main dimensions: financial reporting quality and firm value related to corporate governance. In terms of the first dimension, it broadens the earnings management literature to a new type of firm, firms that operate through the OFCs. Offshore firms have no or less physical assets in the OFCs where they are registered or set up affiliates,[8] and operate their business globally, while they hire expertise around the world to provide them with professional

[8] For example, "[i]n the Cayman Islands, one address alone houses 18,857 corporations, very few of which have a physical presence in the islands" (http:// www.whitehouse.gov/)

services. However, the fundamental accounting issue - the quality of financial reporting - in this new type of firm has not been explored by prior studies. Although Desai and Dharmapala (2009a) examine the relationship between earnings management and corporate tax shelters, the study only examines Type II offshore firms (U.S. firms with affiliates in OFCs) while it does not explore Type I offshore firms (firms with headquarters in OFCs). Using a sample that is composed of Type I and Type II offshore firms, I extend and complement their study by testing the relationship between the ease of earnings management and all types of offshore firms.

Recently, researchers have begun to analyze real earnings management (Roychowdhury (2006)) and factors that make managers choose different alternatives (accruals or real earnings activities) to manage earnings (Zang (2007), Cohen, Dey and Lys (2008)). This study contributes to this emerging literature by testing earnings management alternatives of a type of firm with a different legal structure and oversight, the offshore firm. In addition, prior studies focus on U.S. firms' alternatives of earnings management. This study explores how management chooses different alternatives to manage their earnings using offshore financial centers where the institutional environments are quite different from that found in the U.S.

In addition, the study also makes a novel contribution to the research on international financial reporting. LaPorta et al. ((1998) and (2000)) document significant cross-country differences in legal institutions and investor protection and discuss the potential implications from these differences. One implication is the differential quality of financial reporting across firms from various countries (e.g. Leuz, Nanda and Wysocki (2003), Francis and Wang (2008)). However, OFCs allow offshore firms to shift or modify their underlying legal structures beyond the bounds of one country's legal regime and regulations, probably leading managers to be more

aggressive. For instance, my results show that U.S. firms with affiliates in OFCs are more likely to engage in earnings management than non-offshore firms (including U.S. firms without affiliates in OFCs), although those U.S. Type II offshore firms are also subject to the U.S. regulations and presumably investors are well protected. This study goes beyond the simple one-country mappings which are used in most prior accounting research by investigating the quality of financial reporting of offshore firms underlying the multi-tiered legal structures in an international setting.

Concerning the literature of firm value, this study, using an international sample, provides the first evidence about the market reaction to a firm migrating to or setting up affiliates in OFCs after 2002, the year SOX was enacted. Investigating the "corporate inversion" [9] of U.S. firms, Desai and Hines (2002) demonstrate that market participants expected a company's foreign inversion to be accompanied by a reduction benefit in tax liabilities on U.S. source income before 2002. Except for a few prior studies investigating "corporate inversion" before 2002 (Desai and Hines (2002) and Cantley (2003)), however, there still are no studies examining investor reaction to a firm transferring to or setting up affiliates in an OFC after 2002 based on legal institutions, firm-level governance structures and tax benefits.

Second, this study provides supplemental analysis of international corporate governance. Beginning with LaPorta et al. (1998), many papers discuss the impact of country characteristics, such as investor protection and economic development, on firms' corporate governance practices (Doidge, Karolyi and Stulz (2007)). In contrast, the evidence from Durnev and Kim (2005) is different. Using international firm-level governance and transparency data released by Credit Lyonnais Securities Asia (CLSA) and Standard & Poor's, they argue that firms with better governance have higher

[9] By "inverting", an affiliate of the firm in an OFC becomes the parent company and the U.S. parent company becomes the affiliate.

value. They also question the function of legal jurisdictions in defining corporate governance behaviors as increasing globalization has made national boundaries less important. Offshore firms which are registered in or set up affiliates in OFCs operate their businesses in different countries, some of which have stricter legal regimes for investor protection while others are more lax. The analysis of how corporate governance structures of offshore firms affects firm value yields deeper insights into the study of international corporate governance.

Third, in terms of offshore firm value over the long term, to the best of my knowledge there is no paper investigating the value of offshore firms (including Type I and Type II offshore firms) internationally. Desai and Dharmapala (2009b) test the association between corporate tax avoidance ("book-tax" gaps) and firm value of U.S. firms (a part of Type II offshore firms).[10] However, they do not explore the value of offshore firms including Type I and Type II offshore firms, not only regarding tax avoidance benefits but also from other perspectives such as the legal structures of offshore firms and the regulations of OFCs. In addition, Daines (2001) provides evidence that Delaware corporate law[11] improves firm value. Although Delaware corporate law is to some extent similar to OFC regulations since both are quickly updated to respond to firms' changing needs, the strictness of regulations may be different between Delaware and OFCs according to Masciandaro (2006). In addition, OFCs have other differences compared to Delaware, such as lower or zero tax burdens and their secrecy policies. Thus, this study takes a different tack to analyze the long-run valuation of offshore firms in an international setting.

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[10] In this study I define Type II offshore firms as firms that set up affiliates in OFCs but their headquarters are in other non-offshore countries, such as the U.S. and the U.K.

[11] Delaware has attractive rules and court precedents for public firms, because it is the only state in the U.S. with a specialized Chancery Court for resolving corporate law disputes and its rules are quickly updated to respond to needs of companies (Daines (2001)).

Fourth, this study to some extent explores the value implications for a new type of firm – the offshore firm. By thoroughly investigating the short- and long-run value of offshore firms, the results reveal factors related with country-level and firm-level governance that have a profound impact on the value of offshore firms.

Finally, using offshore firms which are listed or cross-listed in the U.S. stock markets, my dissertation also contributes to the literature concerning the impact of SOX by focusing on how SOX has influenced earnings management and on firm value of offshore firms.

From a practical aspect, this research broadens our understanding of offshore firms beyond tax avoidance and provides insights into their financial reporting quality and firm value that may be useful for international organizations like the OECD and the IMF. In addition, it gives useful information to stock market regulators and supervisors of OFCs by examining the market reaction of firms' transferring to or registering their affiliates in OFCs. Finally, the results of this study are a meaningful guide for market participants investing in offshore firms.

The rest of this thesis is organized as follows. Chapter 2 investigates the background of OFCs, defines offshore firms in this research and provides anecdotal cases involving OFCs. In Chapter 3, I review prior literature about OFCs and develop hypotheses, while I present the data and samples, and research methodology used in this study in Chapter 4. The empirical results of financial reporting quality and firm value of offshore firms are shown in Chapter 5. By analyzing thoroughly my results, in Chapter 6, I discuss their implications for academia, regulators, governments, auditors and other market participants. Finally, the thesis is concluded by Chapter 7.

Chapter 2–Institutional Background

2.1 General Perspectives of OFCs

Although there is not a "precise" definition of an OFC, it can be broadly defined as any financial center where offshore finance takes place. Offshore finance is, at its simplest, financial services that are provided by banks and other agents to non-residents. The primary role of the financial service providers is borrowing and lending money to non-residents. This can take the form of lending to corporations and other financial institutions, funded by liabilities to the lending bank elsewhere, or to market participants. Such off-balance sheet, or fiduciary, activity is not generally reported in financial statements or other disclosure formats. Furthermore, most funds are believed to be held in OFCs by mutual funds and trusts. In addition to finance activities, other services provided by offshore centers include insurance and tax planning.

The IMF defines OFCs as:

"1) Jurisdictions that have relatively large numbers of financial institutions engaged primarily in business with non-residents;

2) Their financial systems with external assets and liabilities out of proportion to domestic financial intermediation designed to finance domestic economies; and

3) More popularly, centers which provide some or all of the following services: low or zero taxation; moderate or light financial regulation; banking secrecy and anonymity."[12]

In terms of academic definition, Zorome (2007) states that "an OFC is a country

[12] IMF website: http://www.internationalmonetaryfund.com

or jurisdiction that provides financial services to nonresidents on a scale that is incommensurate with the size and the financing of its domestic economy". Errico and Musalem (1999) and Park (1994) posit that an OFC provides a low-or zero-taxation scheme while Hampton and Christensen (2002) use the terms tax haven and OFC interchangeably in their survey of OFC activity. Also, Coates and Rafferty (2006) and Masciandaro (2006) use the same definitions in their studies. In this thesis, I choose to define OFCs using the definition of an OFC in IMF surveys. In an OFC, there are relatively large numbers of financial institutions engaged primarily in business with non-residents, low or zero taxation, loose regulations and secrecy of banking and company information.

More than forty OFCs can be found around the world (Figure 2) [13] but their development has not been consistent. Some of them, such as Ireland and Hong Kong, have well-developed financial markets and modern infrastructure that add significant amounts of value to the investments of non-residents, while others are in developing economics, such as the Cayman Islands.

[INSERT FIGURE 2 HERE]

Business in OFCs is booming. From 1982 to 2003 the economies of OFCs grew at an annual average rate of 2.8% per capita, more than twice the average world rate of 1.2%. Some OFCs have become the richest jurisdictions in the world. In 2008, for example, Luxemburg and Bermuda were the first and second richest countries in the world with a GDP per capita of about $85,000 U.S. and $70,000 U.S. respectively, compared with $48,000 U.S. for the United States. Moreover, the citizens of Cayman Islands are richer than most people living in Europe, Canada and Japan (See Figure

[13] Data source: IMF surveys and Financial Stability Forum (2000)

3).[14] This is encouraging other countries to actively foster offshore business as a development tool, such as in Dubai and Cape Verde.[15] Therefore, OFCs as a jurisdictional group have been developing rapidly and can no longer be ignored in the global economy.

[INSERT FIGURE 3 HERE]

2.2 Specific Features of OFCs

2.2.1 The Taxation of OFCs

Tax avoidance is by far the most attractive characteristic of OFC's as many OFCs originally were important in the financial world because they created structures that helped to minimize tax. As a result, firms registered in OFCs can greatly reduce their tax burden. For example, from 1996 to 2000, Enron only paid $17 million in taxes on its $2 billion of earnings through its 692 affiliates incorporated in the Cayman Islands and about 200 other offshore affiliates in other OFCs around the world (Brittain-Catlin (2005)).

Recently, however, steps have been taken to reduce the opportunities for tax evasion provided by OFCs. In 2000, the OECD identified over thirty countries or jurisdictions that were engaging in harmful tax evasion practices. Countries on the list were given deadlines to change their policies and avoid sanctions.[16] In addition, although most OFCs still charge no or a minimal amount of tax, the increasing sophistication of onshore tax codes has meant that tax avoidance has played a less significant role in the OFCs in recent years.

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[14] *The Economist* Feb. 22 2007 Survey
[15] IMF 2008 Surveys of Offshore Financial Centers
[16] Source: http:// www.oecd.org/dataoecd/9/61/2090192.pdf.

2.2.2 The Loose Regulations of OFCs

Most OFCs now promote themselves as regimes with "light but effective" regulations, and generally only seek to regulate high-risk financial business, such as banking, insurance and mutual funds. In his book "Offshore: the dark side of the global economy", Brittain-Catlin describes the freedom of companies in the Cayman Islands. Except for "an annual charge of a few hundred dollars, a company can pretty well do what it wants, as long as it does it outside Cayman (Brittain-Catlin (2005))".

Masciandaro (2006) argues that there are gaps between the regulations of developed countries and those of OFCs. When designing the regulatory framework the OFCs policymakers define the optimal degree of compliance as one that maximizes a political cost-benefit function.[17] The loose regulations of OFCs lead some companies to pursue "regulatory arbitrage". For example, Japanese credit card companies can set up structured finance deals offshore that they could not do in Japan. In this way, offshore firms can engage in very aggressive and complex trading on the world's markets using derivatives and other financial instrument to hedge loans, do deals and swaps, convert currencies, buy contracts and so on.

Practically, it is well known that OFCs have loose regulations that are easy to follow, influence and change. "Supervisors of OFCs are willing to listen and change. They are not rigid like regulators in Japan and Korea," says one banker at a British firm.[18]

LaPorta et al. (2000) and Nenova (2000) suggest that well-functioning legal and judicial systems limit insiders' private control benefits by making wealth expropriation legally riskier and more expensive in an international context. A good legal regime will prevent insiders from expropriating the benefits of outside investors.

[17] *The Economist* Feb. 22 2007 Survey
[18] *The Economist* February 22nd 2007

In contrast, insiders' private control is considerable in countries or jurisdictions where the legal protection of outside investors is weak. Therefore, in most OFCs, it is easier for insiders of an offshore firm to reduce information transparency and expropriate the wealth of public shareholders due to the unique legal regimes and flexible regulations of OFCs.

2.2.3 Secrecy of OFCs

Excessive secrecy is another characteristic feature of OFCs, particularly in relation to both the beneficial ownership of offshore companies, and to offshore bank accounts. In most OFCs, banks will protect the confidentiality of their customers. On the one hand, OFCs excessively protect the secrecy of offshore firms. As a result, it is very difficult for public shareholders to get transparent information about offshore firms. On the other hand, OFCs do not disclose the benefits derived by the controlling shareholders of offshore companies, especially those related to offshore bank accounts.

Thus, "if a person wants to get information about an offshore firm or affiliate, he can only obtain the complete name, the registration state, and file number of the firm, in addition to the type and status of the company" (Brittain-Catlin (2005)). For investors, it is difficult to get concrete information about offshore firms, and this secrecy helps offshore firms and their owners to accumulate capital without any disclosure, even for public firms.

2.2.4 The Offshore Attitude Indexes

To investigate the unique characteristics of OFCs, Masciandaro (2006) creates the Offshore Attitude Indexes (OFCINDEX) for 222 countries and jurisdictions using two steps. First, OFCINDEXs are based on whether a country or jurisdiction is listed by

the OECD as a tax haven, by the Financial Action Task Force (FATF)[19] as a possible center for money laundering, or by the Financial Stability Forum (FSF)[20] as non cooperative country and territory. Second, countries and jurisdictions are coded by their legal environment and common law, political stability, potential national benefits and economic crime pollution. Specifically, in terms of potential national benefits, Masciandaro (2006) argues that if a country or jurisdiction does not have natural resources, it is more likely to be motivated to use zero or low taxation to attract foreign investors. The range of the OFCINDEX is from 0 to 5. With a higher Offshore Attitude Index, a country or jurisdiction has a relatively loose and flexible legal environment, unstable politics, higher economic crime pollution and lower potential national benefits.

2.3 The Definition of Offshore Firm

As stated above, I define an offshore firm as a company that registers in an OFC or has affiliates that register in an OFC or OFCs. However, these firms do not conduct substantial business in OFCs. Although there are many OFCs, some of which have existed for many years, which include jurisdictions like Ireland, Hong Kong and Luxembourg, others, like Bermuda, are newer. My thesis considers all OFCs listed in the IMF surveys of OFCs. Furthermore, I classify offshore firms into two types: type I offshore firms are registered in OFCs, so their headquarters are located in OFCs, while type II offshore firms have affiliates in OFCs, but their headquarters are based in other countries.

[19] The Financial Action Task Force (FATA) is an inter-governmental organization that seeks to develop and promote policies at both national and international levels to combat money laundering. Resource is from http://www.oecd.org/fatf.

[20] The Financial Stability Forum (FSF) promotes international financial stability through international cooperation and information exchange in financial supervision and surveillance. Resource is from http://fsforum.org.

2.4 Practical Cases

In the practical world, there are many cases of wrongdoing by offshore firms, Enron, Tyco and Parmalat being the most famous examples.[21] Enron was founded in 1985 as an interstate pipeline company created by the merger of Houston Natural Gas and the Omaha-based InterNorth. By 1999, Enron had became one of the largest business conglomerates in the world with annual revenue hitting $100 billion US in 2000, making it the seventh-largest company on the Fortune 500, and the sixth-largest energy company in the world. Enron's stock price peaked at $90 US at the end of September 2001. However, in October 2001, Enron reported a loss of $618 million - its first quarterly loss in four years. On Dec. 2, 2001, Enron filed for bankruptcy protection, at that time the biggest case of bankruptcy in the United States, leading to about 5,600 Enron employees losing their jobs. By late November 2001, Enron's stock price had dropped to less than $1 US. The U.S. Securities and Exchange Commission launched an investigation into Enron's investment partnerships, which later showed that Enron had set up more than 850 offshore affiliates in OFCs such as the Cayman Islands since 1994. Many of its offshore partnerships were found to have played a key role in hiding losses and concealing debt. Enron used an off-balance sheet approach to "cook" its financial reporting.

Like Enron, Tyco used OFCs to facilitate its illegal activities. After the company migrated to Bermuda, Tyco acquired hundreds of companies between 1996 and 2002 and created a conglomerate that made everything from fire suppression systems to health-care products, with worldwide sales of $40 billion. However, in September 2002, an SEC investigation revealed that Tyco investors were not informed of the $170 million in loans that were taken by its CEO, L. Dennis Kozlowski, CFO and

[21] Data source of Section 2.4 is from *The Wall Street Journal* and the SEC website, http://www.sec.gov/news/.

chief legal officer. The loans, many of which were interest free and later written off as benefits, were not approved by Tyco's compensation committee. Kozlowski and Mark Swartz, Tyco's former CFO, filed materially false annual reports and lied to the company's auditor, leading to false entries to be made on the books and reports in order to conceal and fund their secret compensation arrangements. After this scandal, Tyco's investors lost $2 billion U.S. As he serves up to 25 years in jail for misleading investors and stealing money from Tyco, Kozlowski now watches the breakup of everything he built.

Following the example of Enron and Tyco's example is Parmalat, a company that before 2002 was Italy's eighth-largest industrial empire and a leading producer of such items as pasteurized milk, cheese, yogurt, cookies, juice and iced tea, most of which were and are still sold under a variety of names in different countries.[22] Although its headquarters is in the central Italian city of Parma, Parmalat has a number of affiliates and subsidiaries around the world, many of which are located in OFCs. For example, in 1999, Parmalat set up a subsidiary in the Cayman Islands called Bonlat. However, during 2002, numerous media outlets reported on Parmalat's executives "cut and paste" forgeries which were combined with more traditional forms of fraud, such as the falsifying of sales figures. For example, its Cayman Islands subsidiary Bonlat claimed to have sold enough powdered milk *in one year* to Cuba to produce 55 gallons of milk for each citizen of the small island nation. In fact, Bonlat falsified and reported nonexistent sales and earnings, which greatly increased Parmalat's profits. The ensuing scandal led the company to cut 36,000 jobs and increased Parmalart's debt to $1.5 billion in 2002, in addition to creating a huge loss for its investors.

[22] Parmalat's well-known brand names in North America include Archway and Mother's cookies, Olivina margarine, Black Diamond and Balderson's cheeses, and Astro yogurt

2.5 Synthesis

Offshore firms are unique in many aspects. First, most offshore firms are under an institutional environment which is much different from other developed and developing countries: low tax rates, excessive secrecy, loose legal regimes and flexible regulations. However, the main businesses of these firms operate in other countries instead of OFCs and are subject to other countries' laws and regulations, some of which are very strict such as those of the U.S. Except for the tax avoidance, academic researchers do not have a clear understanding of offshore firms, such as their corporate governance mechanisms and related firm value and financial reporting quality. Secondly, there are important differences between the two types of offshore firms. Different types of offshore firms are subject to different regulations, while the strictness of regulations of different types of offshore firms varies. They also have different reporting requirements and management incentives, and exhibit different reporting qualities (Hope, Kang and Zang (2008)). These characteristics are intriguing and encourage a more detailed investigation of offshore firms.

Chapter 3 – Literature Review and Hypotheses

3.1 Prior Literature

Most prior academic papers studying offshore financial centers (OFCs) focus on the regulations and the economic advantages and disadvantages of OFCs. Rose and Spiegel (2007) analyze the causes and consequences of OFCs, and find that while OFCs are likely to encourage tax avoidance in source countries, they may also have unintended positive functions, such as providing competition for the domestic banking sector. Hines and Dharmapala (2006) investigate 209 countries and territories including 33 OFCs and explore the reasons why some jurisdictions become OFCs and others do not. Their results show that small, wealthy jurisdictions with low levels of corruption can successfully become OFCs. Masciandaro (2006) establishes a model to test the regulations of OFCs. He observes that OFCs are often characterized by a Common Law juristic system. He argues, however, that there are still regulation gaps between OFCs and developed countries.

In terms of offshore firms, the relatively little prior research mainly concentrates on the tax shield function. Altshuler and Grubert (2003) and Desai, Foley and Hines (2003) illustrate the uses of tax havens (another name of OFCs) to facilitate the deferral of repatriation taxes through the different ownership arrangements. Desai, Foley and Hines (2005) argue that larger, more international firms, and those with extensive intrafirm trade and high R&D expenses, are more likely to use a tax haven. Desai and Dharmapala (2006a) analyze the association between tax avoidance and the growth of high-powered incentives for managers using U.S. firms as their sample. They posit that increases in incentive compensation are related with lower levels of

tax sheltering and that this negative association is mainly driven by weak corporate governance.

However, prior studies have not investigated other perspectives, such as the ease of engaging in earnings management or the impact of a firm's decision to set up its affiliates in one or more OFCs or transfer its headquarters to an OFC on firm value. In addition, previous studies of offshore firms only use U.S. data rather than expanding the research to an international setting. Therefore, investigating the quality of financial reporting and firm value of offshore firms are the two main objectives of my thesis. In this chapter, I develop the hypotheses concerning offshore firms' financial reporting quality and firm value.

3.2 Financial Reporting Quality of Offshore Firms

3.2.1 Research Questions

One of the aims of this study is to investigate financial reporting quality which is measured by earnings management of offshore firms. Specifically, I try to answer the following questions.

1) Do offshore firms engage in significantly more earnings management than non-offshore firms?
2) Is there a difference in the earnings management between Type I offshore firms that register in OFCs and Type II offshore firms with affiliates in OFCs?
3) How do offshore firms manage their earnings? Are offshore firms more likely to use accruals or real economic activities to manage their earnings?
4) Did SOX affect the magnitude of earnings management by offshore firms?

3.2.2 Prior Literature and Hypotheses

In this section, the main hypotheses concern if firms are more likely to engage in earnings management and how they do it.

3.2.2.1 Easier Managing Earnings and Offshore Firms

Using a sample of 31 countries, Leuz, Nanda and Wysocki (2003) investigate the association between earnings management and one-country mapping of investor protection. They find that earnings management is more pervasive in firms in countries where the legal protection of outside investors is weak because company insiders can obtain greater private control benefits and therefore have stronger incentives to manipulate earnings. Lang, Raedy and Wilson (2006) compare the earnings quality of U.S firms with that of cross-listed non-US firms which have different legal regimes. They show that relative to the U.S firms, cross-listed firms report smoother reconciled earnings, often use accruals to smooth cash flow volatility, report a higher proportion of small positive earnings, and are less likely to recognize losses in a timely manner. Their results show that home-country institutions of cross-listing firms continue to influence the reporting behavior of cross-listed firms. Thus, although Type I offshore firms operate their businesses in different countries and jurisdictions, most of which have stronger legal regimes and higher investor protections than OFCs, the institutional environments of OFCs still largely affect firms' financial reporting.

In terms of Type II offshore firms with headquarters in the U.S and U.K., they may take advantage of the institutional environments of OFCs, such as the weaker legal regimes and limited investor protections that make it easier for firms to manage earnings. For example, Enron's more than 700 affiliates in the Cayman Islands allowed its management not only to minimize taxes but also to manufacture earnings,

moving its debts to offshore partnerships to keep them off its balance sheet. The opaque financial disclosure of its offshore affiliates allowed Enron to artificially inflate its profits, substantially increasing the firm's stock market value, while company insiders exercised their options, reaping gains of hundreds of millions of dollars.[23]

Concerning both types of offshore firms, the evidence reveals that offshore organizations can be used to manipulate earnings because the legal regime of a firm which is registered or has affiliates in OFCs is a multi-tiered configuration encompassing its country of listing, its country or jurisdiction of incorporation, and the countries in which it conducts its business or financial affairs. Offshore firms can use this multi-tiered legal structure to modify their corporate governance, which may negatively impact on the quality of their financial reporting.

On the other hand, according to Durnev and Kim (2005) and Doidge, Karalyi and Stulz (2007), it is easy to conjecture that offshore firms are not motivated to improve their governance because the costs of good governance are too expensive or not even available in their jurisdictions, and because even if offshore firms have poor governance they still have potentially valuable growth opportunities.

Hope and Thomas (2008) analyze the geographic earnings disclosures of U.S. multinationals with large foreign operations. They find that non-disclosing firms have larger increases in foreign sales but decreased foreign profit margins, and lower firm value after SFAS 131, in comparison to firms that continue to disclose their geographic earnings. Their study suggests that there is large information asymmetry in Type II offshore firms because they disclose limited information about their affiliates. Furthermore, secrecy policies of most OFCs largely increase offshore firms'

[23] Data source: http://www.sec.gov/news.

information asymmetry between shareholders and managers. For example, Enron's offshore affiliates grew dramatically from 31 in 1994 to 850 in 2000, many of which played a key role in hiding losses and concealing debt, leaving public investors of Enron unaware of its hidden debts and losses for many years.

Off-balance-sheet is one of the main tools for offshore firms to hide their debts and losses. Including Enron in their sample, Feng, Gramlich and Gupta (2009) document that the aim of managers' using off-balance-sheet is not for an economic purpose but rather to increase earnings. Although the SEC has already issued guidance concerning off-balance-sheet disclosures after the Enron scandal, the disclosed information from off-balance-sheets is so general and limited that Type II offshore firms still can take advantage of off-balance-sheet for hiding losses and debts in turn increasing earnings (Chandra, Ettredge and Stone (2006)).

Desai and Dharmapala (2009a) illustrate the relation between tax avoidance and earnings management of Type II U.S. offshore firms through a simulated example.[24] They set up two periods with the same earnings and two different scenarios, one with tax sheltering but no earnings management, the other with tax sheltering along with accruals management. Managers can obtain compensation by bonuses that equal a percentage multiple if the amount of firm's after tax earnings exceeds a certain point. They find that although managers could increase bonuses by a small amount by tax sheltering without earnings management, the benefits of tax sheltering are not enough to motivate them to pursue a tax avoidance strategy. However, using accruals management along with tax sheltering they can significantly increase after tax earnings and increase their bonuses by a multiple of four or five compared to only using tax sheltering, where the tax costs are quite small. On the other hand, by

[24] Their model is based on two assumptions; that except for accruals management managers do not have other methods to manipulate reported earnings, and that personal taxes are not charged to managers.

manipulating a firm's earnings based on tax avoidance, managers can increase their bonuses and appropriate more of the shareholder's wealth and in turn decrease shareholder value.

Finally, Desai and Dharmapala (2009a) argue that while OFCs provide firms with tax avoidance capability, they also may facilitate earnings management because managers can use the complex and opaque structures of companies set up in offshore financial centers for all sorts of expropriation. Like Type II offshore firms, many Korean firms have complex company structures. Using Korean data, Kim and Yi (2006) document that the magnitude of discretionary accruals is greater for group-affiliated firms than for non-affiliated firms. Therefore, the complex and opaque structures of Type II offshore firms – especially for firms with hundreds of affiliates in OFCs – make it easier to manage earnings. In practice, anecdotal evidence also provides examples of this kind of activity. Enron and Parmalat both had thousands of offshore affiliates that their managers used, not only to reduce their tax bills but also to loot the company. Although U.S. and U.K. registered firms that have affiliates in OFCs are required to obey the regulations of these two countries, their OFCs affiliates make it easy for them to manage their earnings.

These give rise to my first hypothesis:

H1a: Ceteris paribus, offshore firms are more likely to engage in earnings management than non-offshore firms.

H1b: Ceteris paribus, offshore firms with headquarters in OFCs (Type I offshore firms) are more likely to manage earnings than offshore firms that only set up affiliates in OFCs (Type II offshore firms).

3.2.2.2 How to Manage Earnings

Earnings management can be done in two different ways: accrual management (see Healy (1985), Jones (1991), McNichols and Wilson (1988)) and the manipulation

of real economic activities (see Dechow and Sloan (1991), and Roychowdhury (2006)). Accrual management which follows GAAP, usually does not affect current cash flows, while real earnings management directly influences the current and future cash flows of companies. Managers can change the timing and volume of real activities such as sales, production or discretionary expenses during accounting periods to match their earnings targets, in turn distorting firms' financial reporting. In addition, firm management can choose different earnings management alternatives based on their cost-benefit considerations.

Graham, Harvey and Rajgopal (2005) find that financial executives are willing to manipulate real activities to meet earnings targets such as zero earnings, previous period's earnings and analyst forecasts. Although real earnings management decreases the economic opportunities of business operations, reducing firms' competitive advantage, managers still prefer real earnings management to accruals in order to reduce litigation risks and avoid auditor and regulator scrutiny.

Zang (2007) further explains the reasons why managers prefer the higher cost of real earnings management following the enactment of SOX. She argues that although accruals cost less, managers suffer much more from auditor and regulator's scrutiny and litigation risks. After considering the cost-benefits of auditor and regulator scrutiny, managers tend to choose real earnings management that has higher cost-benefits for them. Based on cost-benefit considerations, she finds that firms' accruals largely decrease, while their real earnings management by cutting R&D expenditure and overproduction increase dramatically after firms' lawsuit filings. Therefore, a company in a stricter legal regime tends to choose real earnings management, an earnings management alternative with less litigation risks.

In order to investigate how offshore firms manage earnings, with respect to the

association between the characteristics of OFCs and earnings management alternatives, I use the Offshore Attitude Indexes (OFCINDEX) as the proxy of OFC characteristics. With a higher Offshore Attitude Index, a country or jurisdiction has a relatively loose and flexible legal environment, unstable politics, higher crime pollution and lower potential national benefits. Therefore, offshore firms that are under relatively loose regulations have less litigation risks. In addition, many have very complicated organizational structures, which make the scrutiny of external auditors and regulators difficult and in turn reducing litigation risks of offshore firms. Therefore, offshore firms in OFCs with higher Offshore Attitude Indexes may experience less auditor and regulator scrutiny and lower litigation risks. Using Masciandaro's (2006) Offshore Attitude Indexes I hypothesize that:

H2: Ceteris paribus, as the Offshore Attitude Indexes increase offshore firms are more likely to use accruals instead of real earnings activities to manage their earnings.

3.2.2.3 Earnings Management of Offshore Firms Pre- and Post-SOX

The impact of SOX on firms' earnings management has been an essential question in recent studies (e.g., Lobo and Zhou (2006), Cohen, Dey and Lys (2008)). Cohen, Dey and Lys (2008) find that firms used less accruals management but more real earnings management in order to meet earnings benchmarks after SOX. On the one hand, for offshore firms registered in OFCs (Type I offshore firms) and listed in the U.S. stock markets, legal and institutional obstacles have prevented the SEC from successfully enforcing the law against cross-listed offshore firms (e.g., Licht (2003), and Siegel (2005)). However, SOX may have to some extent increased those firms' disclosure and curbed earnings management and accounting fraud. On the other hand, for offshore firms registered in the U.S but with affiliates in OFCs (Type II offshore

firms), the effects of SOX on their earnings management may be more extensive as the law directly applies to them. Thus, I posit my third hypothesis:

H3: Ceteris paribus, the earnings management of offshore firms listed or cross-listed in the U.S. stock market is different pre- and post-SOX.

3.3 Offshore Firm Value

3.3.1 Research Questions

I investigate the market reaction when a listed firm announces its transfer to or setting up affiliates in an OFC, and the long-term value of offshore firms. Specifically, I address the following questions:

1) Does the market react positively to a listed firm's announcing its transfer to or setting up affiliates in an OFC after the series of financial scandals that have occurred since 2001?
2) Are offshore firms more likely to have higher values than non-offshore firms?
3) Is the valuation different in Type I offshore firms that are registered in OFCs and Type II offshore firms with affiliates in OFCs?
4) Do the characteristics of OFCs significantly relate to offshore firms' values?
5) Are there any changes of offshore firm value pre- and post- SOX?

3.3.2 Prior Literature and Hypotheses

3.3.2.1 Short-term Market Reaction

Cantley (2003) and Desai and Hines (2002) study the market reaction to several U.S. firms' inverting in OFCs, such as Stanley Works, Tyco and R&B Falcon before 2002. By "inverting", an affiliate of the firm in an OFC becomes the parent company and the U.S. parent company becomes the affiliate. Their results show that market

participants expected tax reductions by firms inverting, illustrated by a 1.7 percent increase in the share price based on weighted market capitalization in response to inverting announcements. Using event studies, prior literature also investigates the market reaction to U.S. firms reincorporating to Delaware (e.g. Peterson (1988) and Heron and Lewellen (1998)).[25] But these event studies do not provide conclusive evidence if the reincorporation positively increased the value of firms. Furthermore, these prior studies only focus on U.S. firms.

Practical examples of the potential results of this practice were demonstrated by the series of financial scandals that have occurred since 2001, one involving Tyco which lost more than two billion U.S. dollars due to poor management after it inverted to Bermuda five years before. Moving to Bermuda saved it four hundred million U.S. dollars in tax bills for shareholders,[26] but Tyco shareholders might have been happier to pay that four hundred million dollars in exchange for the more than two billion U.S. dollars the company lost. It also could be argued that Tyco would not have deteriorated as quickly if it had remained an American firm.

Except for anecdotal evidence since 2001, academic research documents that legal regimes affect both the protection of minority shareholder rights and firm value (LaPorta et al., 1997, 1998, 2000). Therefore, besides the tax reduction benefits, market participants may also be concerned about the impact of the loose legal regimes and flexible regulations of OFCs on firm value when firms migrate to or set up affiliates in OFCs. Furthermore, most OFCs have secrecy policies which increase the information asymmetry between insiders and public shareholders of offshore firms, which in turn reduces firm value (Klapper and Love (2004), Durnev and Kim (2005)).

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[25] Peterson (1988) illustrates that if a firm did not intend to increase its defenses against a hostile takeover, it obtained positive market returns after reincorporating to Delaware. Later, Heron and Lewellen (1998) find that the increased share prices depend on whether the reincorporation establishes limits on director liability.

[26] Data resource: *The Wall Street Journal*

Thus, I propose the following hypothesis:

H4: Ceteris paribus, markets may not react positively to firms' announcing to migrate to or set up affiliates in OFCs after 2002.

3.3.2.2 Long-term Firm Value

Traditional theory argues that tax avoidance can transfer value from governments to shareholders (Lev and Nissim (2004)). However, although offshore firms obtain a big tax reduction that can increase significantly their firm value, other factors may offset some of their tax benefits based on the following four streams of literature.

Firstly, prior research has suggested that legal institutions are significantly related to both the protection of minority shareholder rights and firm value (LaPorta et al., 1997, 1998, 2000). For example, Shleifer and Wolfenzon (2002) conclude that stronger investor protection reduces diversion and leads to higher firm valuation. The legal institutions of OFCs are very loose, which largely reduce the level of investor protection of Type I offshore firms even though they operate their businesses in different countries and jurisdictions with different levels of investor protection. On the other hand, Type II offshore firms have headquarters in the U.S. and U.K, countries with the strictest investor protection. Thus, Type I offshore firms may get less tax reduction benefits than Type II offshore firms because of their weaker investor protection compared to Type II offshore firms.

Secondly, recent papers broaden the traditional country-level legal institution model by examining the effects firm-level governance on firm value in different countries. For instance, Durnev and Kim (2005) find that the positive relationship between corporate governance and firm value is stronger in a weaker legal environment. Thus, firm-level governance structure also impacts firm value even if

firms are in the same country or jurisdiction. Type II offshore firms (with headquarters in the U.S. and U.K) are located in countries with the highest investor protection. However, their affiliates in OFCs may take advantage of the institutional environment of OFCs, such as weaker legal regimes and limited investor protection. Their multi-tired legal structures may lead Type II offshore firms to decrease their level of investor protection which is positively related with firm value, especially after the series of financial scandals involving OFCs that have occurred since 2001.

The third stream of research is about accounting information quality, disclosure and firm value (e.g. Durnev and Guriev (2008)). LaPorta et al (1998)). Hung (2000) and Francis et al. (2003) find that countries outside the U.S. with weak investor protection environments have lower quality standards in accounting and lower quality auditing, which means that accounting is less credible in these countries. In addition, Leuz and Verrecchia (2000) empirically document the economic benefits of disclosure by using non-U.S. data. They posit that an international reporting strategy is associated with lower bid-ask spreads, and higher share turnover after controlling for various firm characteristics and selection biases. Because of secrecy policy and weak investor protection, Type I offshore firms and the affiliates of Type II offshore firms exhibit relatively large information asymmetry which may reduce firm value to some extent.

Finally, Desai and Darmapala (2009b) examine the effects of tax avoidance on the valuation of U.S. firms. They argue that the tax avoidance benefits do not seem to be validated except for firms with high quality governance.

Based on these studies, I hypothesize that:

H5a: Ceteris paribus, offshore firms are more likely to have higher value than non-offshore firms. However, the valuation gap between offshore firms and non-offshore firms based on tax benefits may be offset more for Type I offshore firms than Type II offshore firms.

H5b: Ceteris paribus, the valuation gap between offshore firms and non-offshore firms significantly narrows after 2002.

H5c: Ceteris paribus, Type I offshore firms are less likely to have higher value than Type II offshore firms.

The Offshore Attitude Indexes (OFCINDEX) is the proxy of OFC characteristics including tax haven, economic crime (money laundering), global cooperation, legal environment and political stability (Masciandaro (2006)), which are related with investor protection. Offshore firms in OFCs with higher Offshore Attitude Indexes are more likely have lower firm value (LaPorta et al. (2002), Durnev and Kim (2005), and Desai and Darmapala (2009b)). Thus, I expect that:

H6: Ceteris paribus, the Offshore Attitude Indexes of offshore firms are negatively associated with the value of offshore firms.

In July 2002, SOX was enacted in response to a number of high-profile scandals that began in 2001. It not only imposes additional disclosure requirements, but more crucially, proposes strict corporate governance mandates. Many papers investigate the economic consequences of SOX (Zhang (2007), Greenstone et al. (2006)). Several studies examine the effects of SOX on U.S. listed foreign firms that are required to comply with this legislation. Berger et al. (2005) demonstrate that foreign private issuers experience more negative returns in the U.S. market than U.S. firms listed after SOX was implemented. Litvak (2005) compares the abnormal returns of U.S. cross-listed firms and those of firms listed in local markets around SOX events. She finds that cross-listed firms suffered from negative abnormal returns. Leuz et al. (2006) posit that SOX drives some poor performing firms out of the stock market because insiders are exposed to greater legal liabilities. Based on the loose legal regimes, the flexible regulations and the secrecy of information policies of OFCs, I propose the

following hypothesis:

H7: Ceteris paribus, the value of offshore firms exhibit differences pre- and post- SOX, and offshore firms experience decreased valuation after SOX.

Chapter 4 – Methodology

4.1 Data and Sample

4.1.1 The Sample of Offshore Firms

I obtained a list of offshore financial centers from the IMF website and Zorome's (2007) study.[27] I began my sample collection of offshore firms by identifying OFCs in the Osiris international database. Osiris database, maintained by Bureau Van dijk Electronic Publishing, is a comprehensive data set for over 60,000 companies from more than 130 countries. There are 26 OFCs in the Osiris database, but 5 of them (Barbados, Belize, Costa Rica, Dominica, and Vanuatu) do not have stock markets or complete accounting information for their companies. Therefore, my sample encompasses 21 offshore financial centers. Within these OFCs, I was then able to obtain data on Type I offshore firms, defined as companies that are registered in OFCs, for 1,806 firms with 12,502 firm-year observations during the 1998-2007 period. Panel A of Table 1 presents the summary of Type I offshore firms by OFCs.

While U.S. and U.K. firms operate under presumably the strongest legal environments in the world, many large multinational firms in the U.S. and U.K. set up affiliates in OFCs. I take U.S. and U.K offshore firms (companies that set up affiliates in OFCs) as Type II offshore firms. Besides the U.S. and U.K., there are of course Type II offshore firms from other countries. I then chose listing firms registered in the U.S. and the U.K. that have affiliates in one or several of the 21 OFCs in the Osiris database. After excluding financial firms, I created a data set of Type II offshore firms

[27] For more details, refer to the surveys of the International Monetary Fund www.internationalmonetaryfund.com.

including 3,515 firms (2,826 U.S. firms and 689 U.K. firms) with 23,079 firm-year observations. Table 1 Panel B summarizes the Type II offshore firms by jurisdictions.

[INSERT TABLE 1 HERE]

Some U.S. and U.K. firms have affiliates in different OFCs. I only count these firms once in the sample of Type II offshore firms even if they have affiliates in more than one OFC. Using this method, I obtained 1,390 Type II offshore firms (1,017 U.S. and 373 U.K. firms) with 12,040 firm-year observations. I restrict my offshore sample to all non-financial, active and listed firms. Moreover, I require that each firm-year observation data can be used to calculate the proxies of earnings management and firm value that I used in this study. After dropping observations with missing firm-level variables and deleting outliers, 10,553 firm-year observations of 2,207 offshore firms remain, including 1,024 Type I offshore firms with 3,580 firm-year observations and 1,183 Type II offshore firms with 6,973 firm-year observations. Table 2 Panel A presents the construction process of the offshore sample.

[INSERT TABLE 2 HERE]

My sample period covers ten years from 1998 to 2007, of which 1998 to 2002 is the pre- SOX period and 2003 to 2007 is the post- SOX period. In order to test the SOX effects on financial reporting and firm performance of offshore firms, I constructed a sub-sample of offshore firms including U.S Type II offshore firms and Type I offshore firms that are cross-listed in the U.S stock markets.[28] There are 975 offshore firms with 6,266 firm-year observations, which are listed or cross-listed in the U.S. stock markets.

[28] In this study, I only consider Level II and Level III U.S cross-listing companies because they are under strict disclosure and investor protection based on the U.S stock market regulations.

4.1.2 The Sample of Non-Offshore Firms

The sample of non-offshore firms comes from all non-OFC countries in the OSIRIS database. Furthermore, I exclude firms that set up affiliates in the 26 OFCs of non-OFC countries in the OSIRIS database. Again, I delete firm-year observation data that cannot be used to calculate proxies of accruals and real earnings management and firm performance, and unavailable data for control variables. The final sample of non-offshore firms consists of 8,257 non-offshore firms with 30,621 firm-year observations from 37 countries. Table 2 Panel B shows the offshore and non-offshore sample structures. The full sample, including offshore and non-offshore firms, has 10,464 firms with 41,174 firm-year observations. Because of several missing control variables used in different models in my study, the samples of these different models have some small variance in size.

4.1.3 The Sample of Migrating to or Setting up Affiliates in OFCs Post- 2002

I begin by creating a sample that includes all announcements of mergers and acquisitions related with the 21 OFCs in my offshore sample on the Thomson Financial SDC Platinum database (SDC) from 2003 to 2007. To identify firms that migrated to or set up affiliates in OFCs, I review the 'Synopsis' of every announcement and keep those for firms in non-OFC countries and jurisdictions that will acquire the entire or a proportion of the share capital of a company in an OFC, and for firms in OFCs that will acquire the entire of share capital of a company in non-OFC countries or jurisdictions. Through this process, I obtain firms that set up affiliates in OFCs by acquiring all or a proportion of the share capital of a company in an OFC, and firms that migrated to an OFC by being merged with a company in an OFC. Regulated utilities, banks, and financial firms are omitted because regulations

and corporate governance of such firms differs from firms in other industries. Based on this dataset, I examine firm information in the Lexis-Nexis historical database and information drawn from "Description and history" filings of every offshore firm in the Osiris database, confirming announcement dates and that firms are still operating their prior business after they are entirely acquired by a company in an OFC. I then exclude firms that do not provide their stock market information on the Datastream database. To be included in the sample for examining market reaction in the short-run, firms must have more than 250 trading days before the announcement dates. After deleting firms that fail to meet these criteria and outliers, I finally obtain the sample of firms migrating or setting up affiliates in OFCs, including 45 firms from 2003 to 2007.

Except for market price data for each firm, the Morgan Stanley Capital International (MSCI) value-weighted world price index is used as the corresponding market index collected from the Datastream database. The daily closing price of each event-firm and MSCI market index are used to compute daily total return.

4.2 Research Design of Financial Reporting Quality

4.2.1 Measurement of Accrual and Real Manipulations

One of the main purposes of this research is to examine the extent of earnings management of offshore firms, and the approaches that offshore firms use to manipulate their earnings. Therefore, based on prior studies I use the following measurement of accrual and real earnings manipulations based on prior studies.

4.2.1.1 Measurement of Accrual Manipulations

I use the modified cross-sectional Jones model (Jones (1991)) as described in Dechow, Sloan and Sweeney (1995) by pooling firms from different countries for

each industry and year to estimate the coefficients in equation (1):

$$\frac{ACCR_{it}}{A_{it-1}} = \alpha_1 \frac{1}{A_{it-1}} + \alpha_2 \frac{\Delta REV_{it}}{A_{it-1}} + \alpha_3 \frac{PPE_{it}}{A_{it-1}} + \varepsilon_{it} \quad (1)$$

where $ACCR_{it}$ is total accruals for firm *i* at year *t*. In equation (1), $ACCR_{it}$ equals earnings before extraordinary items and discontinued operations minus the operating cash flows; A_{it-1} is total assets of the prior year; ΔREV_{it} is changes in revenue from the prior year; PPE_{it} is gross value of property, plant, and equipment. I then put the estimated parameters obtained from Equation (1) in the following model to calculate nondiscretionary accruals (NDAC),

$$NDAC_{it} = \hat{\alpha}_1 \frac{1}{A_{it-1}} + \hat{\alpha}_2 \frac{\Delta REV_{it} - \Delta REC_{it}}{A_{it-1}} + \hat{\alpha}_3 \frac{PPE_{it}}{A_{it-1}} \quad (2)$$

where ΔREC_{it} is the changes in net receivables.

Based on prior literature, I adjust the changed revenues of the sample firms (ΔREV_{it}) with the changed accounts receivable (ΔREC_{it}) to eliminate potentially increased discretionary credit sales. My measurement of discretionary accruals (DAC) for firm *i* and year *t* is the difference between total accruals that are obtained from Equation (1) and the calculated nondiscretionary accruals from Equation (2); that is $DAC_{it} = ACCR_{it}/ (A_{it-1}) - NDAC_{it}$.

4.2.1.2 Measurement of Real Earnings Activities

Following prior research (Roychowdhury (2006), Zang (2007) and Gunny (2005)) I explore my proxies for real earnings activities: cutting R&D, selling and advertising and other expenditures, managing credit sales volumes, and overproducing inventory to reduce the cost of goods sold. These real earnings activities affect firms' normal cash flows from operation, such as discretionary expenditure and production costs.

To calculate real earnings management variables I first estimate normal cash flow

from operations (CFO) as a linear function of sales and change in sales for each industry and year,

$$\frac{CFO_{it}}{A_{it-1}} = \alpha_1 \frac{1}{A_{it-1}} + \alpha_2 \frac{Sales_{it}}{A_{it-1}} + \alpha_3 \frac{\Delta Sales_{it}}{A_{it-1}} + \varepsilon_{it}. \quad (3)$$

Dechow and Sloan (1991), Bens et al. (2002, 2003), and Roychowdhury (2006) find that managers reduce R&D and other expenses to meet earnings benchmarks. Desai et al. (2005) posit that firms with higher R&D expenditures are more likely to use tax havens (OFCs). In order to avoid the influence of managed sales leading to increase reported earnings on discretionary expenses, I use lagged sales to estimate normal discretionary expenses (DISE),

$$\frac{DiscExp_{it}}{A_{it-1}} = \alpha_1 \frac{1}{A_{it-1}} + \alpha_2 \frac{Sales_{it-1}}{A_{it-1}} + \varepsilon_{it}. \quad (4)$$

I model normal cost of goods sold (COGS) and inventory growth (ΔINV) using the following linear functions,

$$\frac{COGS_{it}}{A_{it-1}} = \alpha_1 \frac{1}{A_{it-1}} + \alpha_2 \frac{Sales_{it}}{A_{it-1}} + \varepsilon_{it} \quad \text{and} \quad (5)$$

$$\frac{\Delta INV_{it}}{A_{it-1}} = \alpha_1 \frac{1}{A_{it-1}} + \alpha_2 \frac{\Delta Sales_{it}}{A_{it-1}} + \alpha_3 \frac{\Delta Sales_{it-1}}{A_{it-1}} + \varepsilon_{it} \quad (6)$$

Production costs (PROD) are defined as the sum of GOGS and ΔINV of the year. Thus, I estimate normal production costs with the following industry-year equation,

$$\frac{PROD_{it}}{A_{it-1}} = \alpha_1 \frac{1}{A_{it-1}} + \alpha_2 \frac{Sales_{it}}{A_{it-1}} + \alpha_3 \frac{\Delta Sales_{it}}{A_{it-1}} + \alpha_4 \frac{\Delta Sales_{it-1}}{A_{it-1}} + \varepsilon_{it} \quad (7)$$

Abnormal CFO (D_CFO) is actual CFO minus the normal level of CFO obtained using the estimated coefficients of Equation (3). Using the same method I obtain the abnormal discretionary expenses (D_DISE) and abnormal production costs (D_PROD) from equations (4) and (7). These three variables are used as proxies for real earnings management.

If firms have certain sales levels and manage their earnings upward by real activities they might have: unusually low cash flow from operations (A_CFO), and/or unusually low discretionary expenses (A_DISE), and/or unusually high production costs (A_PROD). Because the above three proxies of real earnings management have different signs, in order to capture the effects of real earnings management of all these three proxies I construct a combined measure of real earnings management (A_REM) based on Zang's (2007) method by summing up these three proxies of real earnings activities, A_CFO, A_DISE and A_PROD.

4.2.2 Empirical Model

I use the following panel regressions to test my hypotheses:

$$Y_{it} = \alpha + \beta_1 (OFFSHORE, TYPE\ or\ SOX) + \beta_2 OFCINDEX + \beta_3 OFFSHORE*OFCINDEX + \beta_4 GDP_{it} + \beta_5 TAX + \beta_6 BIG5 + \beta_7 USGAAP + \beta_8 IFRS + \beta_9 LITIGATE + \beta_{10} INDE + \beta_{11} MTB_{it} + \beta_{12} NETI_{it} + \beta_{13} SIZE_{it} + \beta_{14} OFCINDEX*BIG5 + \beta_{15} OFCINDEX*LITIGATE + \beta_{16} (OFFSHORE, TYPE\ or\ SOX)*MTB_{it} + \beta_{17} (OFFSHORE, TYPE\ or\ SOX)*SIZE_{it} + \beta_{18} INDUSTRY + \varepsilon_{it}, \quad (8)$$

where *i* indexes firms and *t* indexes years.

The dependent variable Y_{it} refers to the measures of accruals where the proxies are abnormal accruals (DAC), the absolute value of abnormal accruals (|DAC|), and the positive abnormal accruals (P_DAC) for firm *i* in year t.

$$Z_{it} = \alpha + \beta_1 (OFFSHORE, TYPE\ or\ SOX) + \beta_2 OFCINDEX + \beta_3 OFFSHORE*OFCINDEX + \beta_4 GDP_{i,t} + \beta_5 TAX + \beta_6 BIG5 + \beta_7 CL + \beta_8 INVREC + \beta_9 DISTRESSED + \beta_{10} INDE + \beta_{11} MTB_{it} + \beta_{12} NETI_{it} + \beta_{13} SIZE_{it} + \beta_{14} OFCINDEX*BIG5 + \beta_{15} (OFFSHORE, TYPE\ or\ SOX)*MTB_{it} + \beta_{16} (OFFSHORE, TYPE\ or\ SOX)*SIZE_{it} + \beta_{17} INDUSTRY + \varepsilon_{it} \quad (9)$$

The dependent variable Z_{it} refers to the measures of real earnings activities where the proxies are abnormal operation cash flows (A_CFO), abnormal discretionary expenses (A_DISE), abnormal production costs (A_PROD) and the combined

measure of real earnings management (A_REM) for firm *i* in year *t*.

I include industry fixed effects in every regression to account for the impact of some industry characteristics on proxies of earnings management (Roychowdhury (2006)). Firm and country fixed effects are not included because the OFCINDEX variable does not vary through time and across countries. To account for the error term correlation within countries, standard errors are clustered by countries. The standard errors are also robust to heteroschedasticity. I do not include time fixed effect because accruals and real earnings management variables are calculated for every year. My results are, however, robust to inclusion of year fixed effects.

The right-hand side variables in equations (8) and (9) are:

OFFSHORE: It is equal to 1 if a firm is an offshore firm, and 0 otherwise. This variable is used to test hypothesis H1a. I predict that it is positively related to accruals proxies, abnormal production costs (A_PROD), and the combined real earnings management (A_REM); and negatively related with abnormal operation cash flows (A_CFO) and abnormal discretionary expenses (A_DISE).

TYPE: it is equal to 1 if a firm is a Type I offshore firm, and 0 otherwise. This variable is used to test hypothesis H1b. I expect that it is negatively related to proxies of accruals and real earnings management.

SOX: this variable is equal to 1 in the period from 2003 to 2007 which I define as post-SOX period, and 0 in the period from 1998 to 2002 which I define as pre-SOX period. This variable is used to test hypothesis H3, and I predict negative coefficients on accruals management and positive coefficients on real earnings management.

The interaction between offshore dummy (OFFSHORE) and the Offshore Attitude Indexes (OFCINDEX) is another testing variable. Masciandaro (2006) analyzes the characteristics of OFCs based on their laws and regulations, political

stability, crime pollution risks and potential national benefits. He argues that if an OFC has a lax regulatory system it is relatively indifferent to its international reputation. In addition, lower potential national benefits which reflect their scant natural resources make OFCs more dependent on providing offshore financial services and low taxation as a way to increase national wealth. As mentioned in Chapter 2, using the lists compiled by the OECD, FATF and FSF, Masciandaro (2006) creates the Offshore Attitude Indexes (OFCINDEX) for 222 countries and jurisdictions. In the indexes, 0 refers to the highest level of legal environment, policy stability, and potential national benefits and the lowest level of crime pollution. Interaction OFFSHORE*OFCINDEX is adopted to test hypothesis H2. I predict that the higher the interaction, the more likely a firm manages its earnings by accruals.

4.2.3 Control Variables

Prior research (e.g., Zang (2007) and Roychowdhury (2006)) suggests a multiple of other factors that are likely to affect firms' earnings management. Therefore, I include country-level and firm level control variables as follows:

GDP: this variable is the logarithm of GDP in U.S. dollars of different countries and jurisdictions, which is used to control country level economic development.

TAX: tax deduction in OFCs provides incentives for offshore firms to manage their earnings by discretionary accruals with less or no costs. *TAX* refers to the average corporate tax rate of countries and jurisdictions based on IMF data.

INDE: controls for a firm's independence magnitude from controlling shareholders to control this impact. Based on the code of firm's independency in the Osiris database, I use 0 to 10 to represent these ten different independency levels with 10 as the highest level of independency. This variable controls for the effects of

corporate governance on earnings management of offshore firms.

BIG5: auditor reputation, which is proxied by the Big5, constrains firms' earnings management through discretionary accruals (Becker, DeFond, Jiambalvo and Subramanyam (1998), Francis, Maydew and Sparks (1999)), because Big5 auditing firms are likely to have more reputation risk and more experience. This variable equals 1 if an offshore firm is audited by one of the Big 5 auditing firms, and 0 otherwise.

USGAAP and IFRS: the different flexibility of accounting choices based on USGAAP, International Financial Reporting Standards (IFRSs) and local GAAP of OFCs might impact offshore firms earnings management. *USGAAP* variable is equal to 1 if an offshore firm follows USGAAP and 0 otherwise, while IFRS equals 1 if an offshore firm follows IFRSs, and 0 otherwise.

MTB and NETI: discretionary accruals are correlated with growth (McNichols (2000)) and firm performance (Guay et al. (1996), and Roychowdhury (2006)). I use market-to-book ratio (MTB) of the prior period to control for growth, and net income (NETI) of the current period to control for firm performance.

SIZE: is the logarithm of total sales in U.S. dollars. McNichols and Wilson (1988) argue that the estimate of abnormal accruals yields a bias if firm characteristics are not controlled. Thus, here firm size is used as the proxy for firm characteristics. On the other hand, larger firms may incur higher political cost (Watts and Zimmerman (1990)), which reduces their likelihood to manipulate earnings.

LITIGATE: Prior studies (Francis, Philbrick and Schipper (1994)) identify four industries with particularly high litigation risks which impact firms' discretionary accruals: biotechnology, computers, electronics, and retailing industries. The variable *LITIGATE* is 1 if an offshore firm is in one of these four industries, and 0 otherwise.

To address the institutional effects of OFCs on litigation risks, I also include an interaction term between OFCINDEX and LITIGATE.

Further, firms' economic characteristics that affect operation cash flows (CL, INVREC and DISTRESSED) are also controlled. Finally, I use several interaction terms: an interaction term of OFCINDEX with BIG5 (OFCINDEX*BIG5), an interaction term of OFFSHORE (TYPE, or SOX) dummy with firm size (OFFSHORE*SIZE, or TYPE*SIZE, or SOX*SIZE), and an interaction term of OFFSHROE (TYPE or SOX) dummy with growth (OFFSHORE*MTB, or TYPE*MTB, or SOX*MTB) to control the institutional effects of OFCs, or the impact of different types of offshore firms, or SOX on firm-level variables. These variables are defined in Appendix A.

4.3 Research Design of Offshore Firm Value

4.3.1 Offshore Firm Value in Short-run

An event study procedure is used to examine the market reaction to a firm's transfer to or setting up affiliates in an OFC. In order to reduce the "noise" of other influencing factors, following the Brown and Warner (1985) model, I extract the impact of an announcement of a firms' transfer to or setting up affiliates in an OFC on stock returns from market index returns, which is the concept of abnormal returns. The abnormal returns of the *i*th stock, AR_{it}, is obtained by subtracting the normal or expected return in the absence of the event, $E(R_{it})$, from the actual return in the event period, R_{it}:

$$AR_{it} = R_{it} - E(R_{it}) \tag{10}$$

I obtain estimated expected returns $E(R_{it})$ using Scholes-Williams (1977) and Dimson (1979)'s market model which is expressed as follows:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}, \text{ where } t = -250, \ldots\ldots \text{one day before event period} \quad (11)$$

Whereα_i is a constant term for the *i*th stock, β_i is the market beta of the *i*th stock, R_{mt} is the market return proxied by the international market index MSCI, and ε_{it} is an error term. The parameters of Equation (11) are estimated by using the time-series data from the estimation period that precedes each individual announcement. The estimatedα_i and β_i are then used to calculate the actual returns in the defined event window(s). Thus, the abnormal returns of *i*th stock are equal to the actual returns during the event period minus the expected returns based on estimated α_i , β_i , and the returns of market index MSCI:

$$AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt} \quad (12)$$

where t = the first day of event window …, the last day of event window.

Cumulative stock returns of *i*th stock for the event period are obtained by adding all daily abnormal returns of *i*th stock.

To eliminate result errors due to event window selection, I chose ten event windows for every event-firm. With the announcement day defined as Day 0, the longest event window is from Day -10 to Day +1 (-10, +1), in which 12 days window-spanning is set, while the shortest event window is 1 day which is from Day 1 to Day 1 (1, 1). Accordingly, ten estimation periods are set based on the ten different event windows.

To test the null hypothesis of no abnormal stock returns, the t-test on the mean cumulative daily abnormal stock returns of *i*th stock is used, based on the cross-sectional standard deviation, assuming that cumulative window-spanning returns of the firms are cross-sectionally independent and identically distributed.

4.3.2 Offshore Firm Value in Long-run

4.3.2.1 Measurement of Firm Value

In prior research, Tobin's Q has been used as the major indicator of firm value. Hermalin and Weisbach (1991) state that "[A] divergence of Q from one represents the value of the assets not included in the denominator of Q, such as the value of the internal organization or the value of expected agency costs. A Q above one indicates that the market views the firm's internal organization as exceptionally good or the expected agency costs as particularly small." Consistent with previous research, I use the approximate Q-ratio proposed by Chung and Pruitt (1994). Their results illustrate that at least 96.6 percent of the variability in the theoretical Q is explained by the approximate Q. Therefore, the approximate Q is one of proxies of firm value calculated as follows:

$$Q = (\textit{Market value of common stocks} + \textit{Net value of total debt}) / \textit{Total assets} \quad (13)$$

To control for the possibility for systematic movements in Tobin's Q relative to industry-wide movements, I also adjust each firm's Q by the mean Q for its industry. The industry is based on the information of the Osiris database which groups industry into Energy, Materials, Industrial, Consumer Discretionary, Consumer Staples, Health Care, Financials, Information Technology, Telecommunication Services, and Utilities. The industry adjusted Q (IAQ) for each firm in a given year is calculated as Q minus the mean Q for the industry for year *t*. Therefore, IAQ is another measurement of firm value used in this thesis.

4.3.2.2 Empirical Model

Using Tobin's Q and industry adjusted Q (IAQ) as the dependent variables I construct the following panel regressions:

$$X_{it} = \alpha + \beta_1 OFFSHORE\ (or\ TYPE,\ or\ SOX) + \beta_2 OFCINDEX + \beta_3 OFFSHORE*OFCINDEX\ (or\ SOX*OFCINDEX) + \beta_4 GDP_{it} + \beta_5 TAX + \beta_6 INDE + \beta_7 USGAAP + \beta_8 IFRS + \beta_9 SIZE_{it} + \beta_{10} PROFIT_{it} + \beta_{11} GROWTH_{it} + \beta_{12} LEVERAGE_{it} + \beta_{13} |DAC|_{it} + \beta_{14} A\_REM_{it} + \beta_{15} CROSS + \varepsilon_{it} \quad (14)$$

where *i* indexes firms and *t* indexes years.

The dependent variable X_{it} refers to the measures of firm value, Tobin's Q (Q) and industry adjusted Q (IAQ) for firm *i* in year *t*.

I include industry fixed effects in every regression that has Tobin's Q as the dependent variable to account for the impact of some industry characteristics on firm value. I do not include industry fixed effect in every regression where IAQ is the dependent variable because IAQ is already adjusted for every industry. In addition, I also control for year fixed effect in every regression that has Tobin's Q and IAQ as dependent variable, respectively. Country fixed effects are not included because the OFCINDEX variable does not vary through time and across countries. To account for the error term correlation within countries, standard errors are clustered by countries. The standard errors are also robust to heteroschedasticity.

The right-hand side testing variables in Equation (14) are dummy variables OFFSHORE for testing hypothesis H5a which I predict it is positively related with firm value (Q and IAQ) but its coefficient significantly decreases after 2002; TYPE which is equal to 1 if an offshore firm is a Type I offshore firm for testing hypothesis H5c that it is supposed to be a negative association between firm value and TYPE; SOX for examining hypothesis H7 and the interaction between OFFSHORE and OFCINDEX for testing hypothesis H6. I expect that the higher the interaction, the more likely a firm has lower value. All the variables are defined in Appendix A.

4.3.2.3 Control Variables

Based on prior studies (LaPorta et al. (2002), Shleifer and Wolfenzon (2002), and Desai and Dharmapala (2009b)), one concern may be about some country-level and firm-level factors that drive firm value. Therefore, I control for country-level variables, such as the logarithm of GDP (LOG_GDP), the average corporate tax rates (TAX) and institutional environments (OFCINDEX). In regard to firm-level control variables, I use accounting standards (USGAAP and IFRS) and independency (INDE) that captures a firm's independent magnitude from its controlling shareholders. Furthermore, I also include the following variables:

SIZE: Previous studies find that larger firms are associated with lower firm value (Lang et al. (2003a), and Durnev and Kim (2005)). The variable is the log of total sales in U.S. dollars. Here, I use sales because they are less sensitive to differences in accounting standards across countries.

PROFIT: Firms that are performing well are likely to have better performance in subsequent years. To control for persistence in performance, I include *PROFIT* measured by the return on assets for the prior year.

LEVERAGE: *LEVERAGE* is measured as the ratio of total debt to total assets, where total debt is proxied by total liabilities.[29] Prior studies (e.g., Lang, Lins and Miller (2004)) find that this ratio is negatively related to firm value.

GROWTH: Sales growth over the past two years. It is used to measure investment opportunities. Previous literature documents that firms with greater investment opportunities enjoy higher firm value (Durnev and Kim (2005)). Thus, I predict a positive coefficient for this variable.

|DAC| and A_REM: Earnings management (accruals and real earnings activities) significantly increase firm performance. Therefore, I use the absolute value of

[29] I recognize that using total liabilities as a proxy for total debt will overstate the value of leverage as current liabilities include non-debt liabilities. Unfortunately, in the dataset current liabilities is not broken down into its debt and non-debt components.

abnormal accruals (|DAC|) and combined real earnings management (*A_REM*) as proxies of earnings management.

CROSS: Equals 1 if a firm is cross-listed in stock markets of other countries, 0 otherwise. Previous literature documents that cross-listed firms in the U.S. have higher valuation than non-cross-listed firms due to the enhancement in the information environment (Merton (1987), and Lang, Lins and Miller (2003)).

Chapter 5 – Results

5.1 Descriptive Statistics

To eliminate the effects of outliers, I exclude observations with Cook's D statistics greater than ten and winsorize the top and bottom 1 percent of the distribution. Table 3 reports the summary statistics of offshore firms. Panel A presents the means, medians, standard deviations, and the 25^{th} and 75^{th} percentiles for the variables of offshore firms (including Type I and Type II offshore firms) used in this study. Besides the variable OWNERSHIP, the sample is significantly large. As indicated in Table 3 Panel A, the mean and median of discretionary accruals is -1.7% and 0.4% of lagged total assets with a relatively large standard deviation, indicating that accruals management varies widely across offshore firms in the 21 OFCs. The mean and median of absolute value of discretionary accruals (|DAC|) are shifted to the right to 22.2% and 9.8% of lagged total assets respectively, which are significantly larger than the means and medians of |DAC| in prior studies using U.S. samples (e.g. Cohen, Dey and Lys (2008) have a mean of 11% and median of 6%).

For the measures of real earnings management, offshore firms have a relatively large negative median of abnormal discretionary expenses of -6.1% and a positive median of abnormal production costs of 2.9%, indicating that offshore firms more often cut their discretionary expenses or increase production in order to increase earnings.

The mean of the measure of offshore firm value, Tobin's Q, is 1.352 but the 0.945 median of Tobin's Q is less than 1, indicating that offshore firms may suffer significantly from agency costs which offset their tax avoidance benefits. Furthermore,

the median of industry adjusted Tobin's Q (IAQ) is -0.197, which is less than the industry average level of Tobin's Q. The standard deviation of IAQ is quite large 1.296, meaning that IAQ varies widely across offshore firms in the 21 OFCs.

In the offshore sample, the percentage of firm-year observations of Type I offshore firms is around 34%, while that for the post-SOX period is about 66%. The average corporate tax rate is 27.3%, along with logarithm of GDP value of 14.26. The auditors of most offshore firms are Big 5 with a mean of 80.9%; meanwhile most offshore firms follow either U.S. GAAP or international GAAP (IFRSs). The average firm has total liabilities of 49% and high market-to-book ratio, along with the median of 8.4% sales growth rate (GROWTH) and of 4.41% return on assets (PROFIT), meaning that offshore firms are high growth firms with high leverage. On average, more than 39% of offshore firm-year observations are from the biotechnology, computer, electronics, and retail industries, industries with higher litigation risks. With regard to corporate governance, the mean of independency of offshore firms is a relatively low 2.98 out of 10.

The distribution of the sample by industry is presented in Table 3 Panel B. Industrials comprise nearly 50 percent of the sample.

[INSERT TABLE 3 HERE]

5.2 Quality of Financial Reporting of Offshore Firms

5.2.1 Univariate Results

Table 4 presents the Pearson correlation matrix for variables used to examine the quality of financial reporting. The absolute value of abnormal accruals (|DAC|) are significantly positively related to abnormal discretionary expenses (A_DISE) but

negatively related to abnormal production costs (A_PROD), suggesting that offshore firms use accruals and real earnings activities alternatively. Moreover, offshore dummy variable (OFFSHORE) is significantly positively related to the absolute value of abnormal accruals (|DAC|), indicating that offshore firms are more likely to engage in accruals management. As the Offshore Attitude Indexes increase, offshore companies engage in more accruals and cutting abnormal discretionary expenses. However, firms with Big 5 auditors manage earnings less, which is indicated by a negative correlation coefficient with the absolute value of abnormal accruals (|DAC|) and abnormal production costs (A_PROD).

[INSERT TABLE 4 HERE]

Panel A of Table 5 compares firm-level and country-level variables for offshore and non-offshore firms. Compared to non-offshore firms, the means of the absolute value of accruals (|DAC|, of 22.2%) and positive abnormal accruals (P_DAC, 18.3%) of offshore firms are significantly higher than those of non-offshore firms. The mean of combined real earnings activities (A_REM, -0.002) is lower than that of non-offshore firms. This indicates that most offshore firms are more likely to engage in accruals but not real earnings management. The results also show that offshore firms and non-offshore firms differ significantly in the means and medians of proxies of accruals and real earnings management. Further, offshore firms have higher average Offshore Attitude Indexes (0.648), higher median logarithm of GDP value (16.44) and lower corporate tax rates than non-offshore firms. In addition, more offshore firms are clients of Big 5 auditors and follow the U.S. GAAP or IFRSs, along with being more profitable and larger than non-offshore firms. However, the independence of offshore firms (INDE) is significantly lower than non-offshore firms.

Panel B of Table 5 compares Type I and Type II offshore firms. The mean and median of accruals (DAC) and abnormal production costs (A_PROD) of Type I offshore firms are significantly higher than those of Type II offshore firms, while the median of abnormal operation cash flows (A_CFO, -0.021) and abnormal discretionary expenses (A_DISE, -0.11) are significantly lower than those of Type II offshore firms. This indicates that Type I offshore firms are more likely to engage in accruals and real earnings management. Moreover, Type I and Type II offshore firms have significant differences in size and auditor quality. The results indicate that Type I offshore firms have significantly higher Offshore Attitude Indexes (mean of 1.911) and lower corporate tax rates (mean of 0.131) than Type II offshore firms, whereas the mean (16.199) and median (16.444) logarithm of GDP value of Type II offshore firms are significantly higher than those of Type I offshore firms.

[INSERT TABLE 5 HERE]

5.2.2 Multivariate Results

Table 6A presents results of OLS cross-sectional regressions using several measures of accruals management as dependent variables: abnormal accruals (DAC), absolute value of the abnormal accruals (|DAC|), and positive abnormal accruals (P_DAC). Consistent with my prediction (H1a), the coefficients on offshore dummy variable (OFFSHORE) are positive and significant at the 1% level in models that use DAC (β= 0.133, p<0.000), |DAC| (β= 0.192, p<0.000) and P_DAC (β= 0.274, p<0.000) as dependent variables, suggesting that offshore firms are more likely to engage in accruals management, especially income-increasing earnings management than non-offshore firms. In addition, the interaction of offshore dummy (OFFSHORE) and the Offshore Attitude Indexes (OFCINDEX) is positively significant for DAC (β=

0.013, p<0.005), |DAC| (β= 0.035, p<0.000) and P_DAC (β= 0.036, p<0.013). This demonstrates that as the OFCINDEX of OFCs increases, offshore firms tend to increase total and income-increasing accruals, which support hypothesis H2.

The findings on control variables are also intriguing. First, the coefficients on the logarithm of GDP, the proxy for real economic activity, are negative and significant for the absolute value of abnormal accruals (|DAC|) as the dependent variable (β= -0.018, p<0.000) and positive discretionary accruals (P_DAC) as the dependent variable (β= -0.010, p<0.000), suggesting that poor economic conditions might lead to more discretionary accruals (Cohen, Dey and Lys (2008)). Moreover, the coefficient on Big5 is negative and significant for all three accruals management models (β= -0.012, p<0.001 for |DAC| model; β= -0.009, p<0.012 for DAC model; β= -0.009, p<0.009 for P_DAC model). In addition, the increased significance of the interaction of OFCINDEX and Big5 in the models that have |DAC| or P_DAC as the dependent variable suggests that as the Offshore Attitude Indexes increase, auditors of Big5 scrutinize offshore firms more in OFCs with higher OFCINDEX (β= -0.019, p<0.000 for |DAC| model and β= -0.016, p<0.001 for P_DAC model). Consistent with prior studies (e.g. Zang (2007)), offshore firms with higher litigation risks and that are larger in size are less likely to manage accruals.

[INSERT TABLE 6A HERE]

The results for the real earnings management (Table 7A) are also consistent with the first hypothesis (H1a). The coefficients on offshore dummy variable (OFFSHORE) are -0.345 (p<0.000) when the dependent variable is abnormal operation cash flow (A_CFO), 0.342 (p<0.000) when the dependent variable is abnormal production costs (A_PROD), and 0.779 (p<0.000) when the dependent variable is the combined real

earnings management (A_REM). The results indicate that offshore firms exhibit lower cash flows and higher production costs from operations, and higher levels of combined real earnings management than non-offshore firms. The positively significant coefficient on OFFSHORE (β= 0.063, $p<0.010$) with abnormal discretionary expenses (A_DISE) as the dependent variable supports the evidence in prior studies that many offshore firms have higher R&D expenses (e.g. Desai, Foley and Hines (2005)). Moreover, offshore firms in OFCs with higher Offshore Attitude Indexes are less likely to engage in real earnings activities indicated by negative and significant coefficient on combined real earnings management (A_REM, β= -0.113, $p<0.000$), which supports the second hypothesis (H2).

With regard to control variables, the coefficients on the logarithm of GDP are significant for all proxies of real earnings management indicating that it is easier for offshore firms to engage in real earnings activities under better economic conditions. In addition, Big 5 auditors significantly decrease the real earnings activities of offshore firms as the Offshore Attitude Indexes increases. As the results on accruals management in Table 6A indicate, combined real earnings management (A_REM) is significantly less for offshore firms that are larger (OFFSHORE*SIZE, β= -0.065, $p<0.000$). Consistent with prior studies (e.g. Roychowdhury (2006)), the coefficient on scaled current liabilities (CL) and the sum of inventories and receivables (INVREC) that affect operation cash flows of offshore firms are -0.070 ($p<0.000$) and -0.223 ($p<0.000$) respectively when abnormal operation cash flow (A_CFO) is the dependent variable. The coefficients on CL and INVREC are 0.109 ($p<0.000$) and 0.161 ($p<0.000$) respectively when abnormal production costs (A_PROD) is the dependent variable.

[INSERT TABLE 7A HERE]

I additionally test the differences of earnings management in the two types of offshore firms. Table 8 shows that Type I offshore firms use significantly more accruals than Type II offshore firms, where the coefficient on TYPE is 0.648 ($p<0.000$) when the absolute value of abnormal accruals (|DAC|) is the dependent variable. Concerning real earnings activities, Type I offshore firms more frequently cut their discretionary expenses with a coefficient on TYPE of -0.455 ($p<0.000$) when abnormal discretionary expenses (A_DISE) is the dependent variable, but report less overproduction costs than Type II offshore firms (β= -0.198, $p<0.000$, for the A_PROD model).

[INSERT TABLE 8 HERE]

The results on the impact of SOX are presented in Table 9. Consistent with my hypothesis H3, the dummy variable SOX is negative and significant (β= -0.159, $p<0.000$) for the model with |DAC| as the dependent variable. Moreover, the coefficient on SOX is negatively significant (β= -0.262, $p<0.001$) for the model with A_CFO as the dependent variable, and positively significant for the model with A_PROD (β= 0.209, $p<0.000$) as the dependent variable, as well as for the model with A_REM (β= 0.295, $p<0.005$) as the dependent variable. This suggests that following the enactment of SOX, offshore firms which are listed or cross-listed in the U.S. significantly reduced their accruals management and in turn used real earnings activities to increase their reported income.

[INSERT TABLE 9 HERE]

5.2.3 Additional Analyses and Robustness Checks

5.2.3.1 Testing Self-Selection Bias

One can argue that the earnings management of offshore firms is driven by certain individual firm attributes and institutional factors of OFCs. In order to address this issue, I control for self-selection bias using Heckman's (1979) two-stage model.

Desai, Foley and Hines (2005) document that larger firms that have significant tax related debt, along with rapid growth exhibiting high R&D intensities, are more likely to migrate to or set up affiliates in OFCs. In addition, in order to reduce the litigation costs and scrutiny of regulators and auditors, firms move offshore. Therefore, I first estimate a probit selection model of firms' determinants to operate offshore. I then obtain the Inverse Mills Ratios (IMR) and use them in the earnings management second-stage Equations (8) and (9). I thus estimate,

$$Prob\ (OFFSHORE) = f\ (OFCINDEX,\ MTB,\ LEVERAGE,\ TAX,\ TAX*LEVERAGE,\ BIG5,\ SIZE,\ INDUSTRY)$$

$$Y_{it} = \alpha + \beta_1 OFFSHORE + \beta_2\ OFCINDEX + \beta_3 OFFSHORE*OFCINDEX + \beta_4 GDP_{it} + \beta_5 TAX + \beta_6 BIG5 + \beta_7 USGAAP + \beta_8 IFRS + \beta_9\ LITIGATE + \beta_{10} INDE + \beta_{11}\ MTB_{it} + \beta_{12}\ NETI_{it} + \beta_{13} SIZE_{it} + \beta_{14} OFCINDEX*BIG5 + \beta_{15} OFCINDEX*LITIGATE + \beta_{16} OFFSHORE*MTB_{it} + \beta_{17} OFFSHORE*SIZE_{it} + \beta_{18} INDUSTRY + \beta_{19} IMR + \varepsilon_{it} \quad (8)$$

$$Z_{it} = \alpha + \beta_1\ OFFSHORE + \beta_2\ OFCINDEX + \beta_3 OFFSHORE*OFCINDEX + \beta_4 GDP_{i,t} + \beta_5 TAX + \beta_6 BIG5 + \beta_7 CL + \beta_8 INVREC + \beta_9\ DISTRESSED + \beta_{10} INDE + \beta_{11}\ MTB_{it} + \beta_{12}\ NETI_{it} + \beta_{13} SIZE_{it} + \beta_{14} OFCINDEX*BIG5 + \beta_{15} OFFSHORE*MTB_{it} + \beta_{16} OFFSHORE*SIZE_{it} + \beta_{17} INDUSTRY + \beta_{18} IMR + \varepsilon_{it} \quad (9)$$

According to Tables 6B and 7B the results for the Heckman two-stage regressions for accruals and real earnings management are similar to those reported using the OLS approach. For instance, the coefficients on offshore dummy variable (OFFSHORE) are positive and significant in all models that have DAC (β= 0.161, $p<0.000$), |DAC| (β= 0.144, $p<0.000$) and P_DAC (β= 0.232, $p<0.000$) as dependent variables. In addition, for models that abnormal operation cash flows (A_CFO), abnormal production costs (A_PROC) and the combined real earnings management (A_REM) are dependent variable respectively (Table 7B), the coefficients on

OFFSHORE are also significant as my prediction.

[INSERT TABLE 6B AND 7B HERE]

5.2.3.2 Discussion of Modified Jones Model

Recent studies discuss the overestimated discretionary accruals using a modified Jones model because the model might estimate nondiscretionary components as discretionary accruals which are related with growth and other firm characteristics. I take into account this concern and limitation in measuring discretionary accruals. However, Cohen, Dey and Lys (2008) mentioned that only using discretionary accruals as a dependent variable instead of an independent variable would not distort the explanatory power of the tests. The probably overestimated discretionary accruals, as a dependent variable, will not bias the explanation of independent variables of the model. Thus, using the modified Jones model, the probably overestimated discretionary accruals might lower the explanatory power of the model (lower R^2) but are not likely to introduce any bias to the results.

5.2.3.3 Performance-matched Earnings Management Model

Although the modified Jones model (Dechow, Sloan and Sweeney (1995) model) is widely used in earnings management studies, many studies suggest that the modified Jones method for the identification of discretionary accruals is somewhat flawed. For example, McNichols (2000) offers evidence that discretionary accruals are correlated with growth and that the mispricing of accruals may be a factor in the "glamour stock" phenomenon. In order to release the assumption of the modified Jones model (all credit sales are discretionary and the linear relationship assumption between the proxies of earnings management and earnings performance), I repeat the

tests by using the performance-matched technique illustrated in Kothari, Leone and Wasley (2005). Specifically, I match each firm-year observation with another firm from the same industry and year with the closest return on assets in the current ROA_{it} (net income divided by total assets). It is evident from Table 10 that my previously reported results remain unchanged.

[INSERT TABLE 10 HERE]

5.2.3.4 Country-weighted Least Squares

The number of observations for each country varies for different OFCs (Table 1). Thus, the results may be influenced by the unequal sample size across countries and jurisdictions. I alleviate this concern by assigning proportional weights based on the number of observations to each country and re-testing Equations (8) and (9). Using country-weighted least square (WLS) tests ensure that uneven country representation in my sample do not bias the results toward countries that are more heavily represented. The results of country-weighted least squares in Table 11 are similar with those in Table 6A and 7A. The results also hold if I simply drop the OFCs with the largest number of firms, Singapore and Bermuda.

[INSERT TABLE 11 HERE]

5.2.3.5 Firm Institutional Ownership

Kim and Yi (2006) and Haw et al. (2004) argue that ownership concentration affects incentives to manage earnings. However, because there are many missing ownership variables of offshore firms, I do not include this proxy in the testing models. Adding an ownership proxy, the percentage of common shares owned by the

top three shareholders, to the set of control variables does not alter my main findings. The results of Table 12 are basically the same as the results in Table 6A and 7A. For instance, the coefficients on OFFSHORE for the model that |DAC| or A_REM is the dependent variable respectively are positively significant, suggesting that offshore firms are more likely to manage earnings using accruals and real earnings activities than non-offshore firms.

[INSERT TABLE 12 HERE]

5.2.3.6 Other Robustness Checks

To examine whether my results are driven by one of the two types of offshore firms, I subdivide the full sample into Type I and Type II samples. The Type I sample is composed of Type I offshore firms and non-offshore firms, while the Type II sample includes Type II offshore firms and non-offshore firms. I then rerun all the models using these two samples respectively. After controlling for industry fixed effects, the non-tabulated results demonstrate that both types of offshore firms are more likely to manage accruals and real earnings activities than non-offshore firms.

Furthermore, I extracted U.S. and U.K. firms from the full sample and compare U.S. and U.K. offshore firms (Type II offshore firms) to U.S. and U.K. non-offshore firms in terms the measures of accruals and real earnings activities. The results show that even for U.S. and U.K. firms, offshore firms are more likely to engage in both accruals and real earnings activities (non-tabulated).

5.3 Offshore Firm Value

5.3.1 Short-run Market Reaction

In Table 14, with different event windows, results of the market reaction to the announcement of a firm's transfer to or setting up an affiliate in OFCs are presented. For all event windows that are close to the announcement dates, the means of cumulative abnormal returns are not significant. For example, between Day -2 and Day +2, firms announcing their transfer to or setting up an affiliate in OFCs experience a positive mean of cumulative abnormal returns of 1.93 percent ($t = 0.56$, $p < 0.578$).

Therefore, to a large extent during the event period around the announcement dates, the market does not react in a significantly positive way to these announcements after 2002, probably because investors reconsider the risks of poor investor protection and insider expropriation rather than just the tax benefits. This finding supports the hypothesis H4 but is not consistent with prior studies before 2002 (Cantley (2003), Desai and Hines (2002)), suggesting that in short-run, the series of financial scandals that occurred involving OFCs since 2001 have led market investors to be more cautious about investing in firms operating in OFCs.

[INSERT TABLE 14 HERE]

5.3.2 Offshore Firm Value in Long-run

5.3.2.1 Univariate Results

Table 13 presents the Pearson correlation coefficients for variables used in investigating offshore firm value (including Type I and Type II offshore firms and non-offshore firms). The offshore dummy variable (OFFSHORE) is significantly positively related to the proxies of firm value, Tobin's Q and IAQ, meaning that offshore firms enjoy the tax reduction benefits. However, as I expect in hypothesis H6,

Tobin's Q and IAQ are significantly negatively related to the Offshore Attitude Indexes (OFCINDEX), suggesting that the tax benefits of offshore firms in OFCs with more OFC characteristics are more likely to be offset by poor investor protection which is related to their loose legal regimes, flexible regulations and higher information asymmetry. Moreover, consistent with prior studies (Durnev and Kim (2005)) I find that Tobin's Q and IAQ are significantly positively related to the economic development of countries or jurisdictions, firm sales growth and prior performance, and the absolute value of abnormal accruals. By contrast, leverage, size and real earnings activities are significantly negatively associated with firm value. The accounting standards affect firm value differently, and while there is a positive relation between U.S. GAAP and firm value, IFRS negatively relates to Tobin's Q and IAQ. Finally, cross-listing in other countries' stock markets may not be a way to increase firm value, because there is a negative association between cross-listing and firm value.

[INSERT TABLE 13 HERE]

Table 5 presents the comparison of offshore firms to non-offshore firms, and Type I to Type II offshore firms. Panel A of Table 5 compares firm-level and country-level variables for offshore and non-offshore firms. On average, offshore firms have a higher Tobin's Q of 1.352, an IAQ of 0.160, and a profitability (PROFIT) of 1.719 compared to non-offshore firms. The results also indicate that offshore firms and non-offshore firms differ significantly in the means and medians of Tobin's Q and IAQ. In contrast, offshore firms' average liability ratio (LEVERAGE) is 49.1% and sales growth is 2.6% which are less than those of non-offshore firms. However, most

offshore firms still have higher sales growth rates, with a median of 8.4%, than most non-offshore firms.

Panel B of Table 5 compares Type I and Type II offshore firms. The results indicate that Type I offshore firms have a significantly lower mean (Q of 0.534 and IAQ of -0.199) and median (Q of 0.647 and IAQ of -0.458) firm value which are proxied by Tobin's Q and IAQ than those of Type II offshore firms (with a mean of Q 1.565 and of IAQ 0.345 and a median of Q 1.118 and of IAQ -0.044), supporting hypothesis H5c. Furthermore, most Type I offshore firms have significantly lower sales growth (7.7%), profitability (4.08%) and leverage (44.3%) than non-offshore firms. However, the average profitability (1.704%) of Type I offshore firms does not significantly differ from that of Type II offshore firms (1.727%).

To summarize, the univariate analysis provides preliminary evidence that offshore firms are more likely to have higher value than non-offshore firms most likely because of the tax avoidance benefits. Furthermore, Type I offshore firms enjoy lower average corporate tax rates (13.1%) than those of Type II offshore firms (34.6%). Finally, Type I offshore firms have, on average, less liability and the same profitability as Type II offshore firms, and their firm value is significantly lower than that of Type II offshore firms.

5.3.2.2 Multivariate Results

Table 15 presents the results of OLS cross-sectional regressions using the proxies of firm value as dependent variables: Tobin's Q and industry adjusted Tobin's Q (IAQ). Columns (1) to (4) of Table 15 show the results of the full sample which is composed of all offshore firms (Type I and Type II offshore firms) and non-offshore firms. To test hypothesis H5a, columns (1) and (3) do not include the interaction

between the offshore dummy (OFFSHORE) and the Offshore Attitude Indexes (OFCINDEX), while with this interaction columns (2) and (4) present results for hypothesis H6. Consistent with my prediction (H5a), in columns (1) and (3) the coefficients on offshore dummy variable (OFFSHORE) are positive and significant at the 1% level in models that use Tobin's Q (β= 0.175, p<0.000) and IAQ (β= 0.132, p<0.000) as dependent variables, suggesting that offshore firms enjoy the tax avoidance benefits with higher value than non-offshore firms. In addition, the interaction of dummy variable OFFSHORE with OFCINDEX in column (2) or (3) is negatively significant for Tobin's Q (β= -0.165, p<0.000) and IAQ (β= -0.125, p<0.000) models. This shows that offshore firms in OFCs with higher Offshore Attitude Indexes, which measure the institutions characteristic of OFCs, are more likely to have lower value, supporting hypothesis H6.

Furthermore, I split offshore firms into two sub-samples, Type I offshore firms and Type II offshore firms, and then compare them to non-offshore firms, respectively. Column (5) and (6) of Table 15 present the results of the Type I sub-sample including Type I offshore firms and non-offshore firms. I find that the OFFSHORE coefficients are negatively significant using Tobin's Q (β= -0.213, p<0.000) and IAQ (β= -0.193, p<0.000) as dependent variables, indicating that Type I offshore firms do not have higher value than non-offshore firms. In other words, the tax avoidance benefits of Type I offshore firms are offset by other factors that market participants consider important to firm value.

Columns (7) and (8) of Table 15 provide results for the Type II sub-sample including Type II offshore firms and non-offshore firms. The coefficients on OFFSHORE dummy are positively significant for models using Tobin's Q (β= 0.315, p<0.000) and IAQ (β= 0.241, p<0.000) as dependent variables respectively. Moreover,

these significant coefficients are larger than those on OFFSHORE of the full sample. Thus, to a large extent, results reported for the full sample are driven by Type II offshore firms.

Putting all the results of Table 15 together, I find evidence that supports the hypothesis H5a. Although Type II offshore firms have the complex legal structures and high information asymmetry of their affiliates in OFCs, investors seem to believe that the tax avoidance provides more positive benefits than the agency costs. As a result, value is transferred from governments to shareholders for Type II offshore firms with their headquarters in the U.S. and the U.K where investor protection is the strictest in the world. In contrast, agency costs related to the loose legal regimes, flexible regulations, economic crimes and secrecy policies of OFCs dramatically offset the tax reduction of Type I offshore firms. Their value is significantly less than that of non-offshore firms although they enjoy higher tax benefits than Type II offshore firms.

In addition, most of the findings on control variables are consistent with prior studies (Durnev and Kim (2005)). First, the coefficients on the logarithm of GDP, the proxy for real economic activity, are positive and significant for most models with Tobin's Q and IAQ as dependent variables respectively, suggesting that firm value is positively related to economic development. Further, the coefficients on size (SIZE) and liability (LEVERAGE) are negative and significant for all models, while the coefficients on sales growth (GROWTH) and profitability (PROFIT) are positively significant for all models. Interestingly, in column (4), the increased absolute value of abnormal accruals (|DAC|) increases firm value by 0.404 in the full sample when IAQ is the dependent variable. However, the increased real earnings activities sacrifice a firm's future economic opportunities and in turn decrease firm value (e.g. in column

(4) for the full sample, β= -0.246, p<0.000). In terms of accounting standards, U.S. GAAP (USGAAP) is positively associated with firm value for all models while in the models where IAQ is the dependent variable the association between the international financial reporting standards (IFRS) and firm value is negative. Finally, cross-listing is negatively significantly related to firm value, which is not consistent with prior studies (e.g. Lang, Lins and Miller (2003)). It may be because in my sample offshore firms are cross listed not only in the U.S. stock markets but also in other developed or developing stock markets, such as the London Stock Exchanges or the Hong Kong Stock Exchanges.

[INSERT TABLE 15 HERE]

Table 17 presents the changes to offshore firm value after the series of financial scandals involving OFCs since 2001. Adding an interaction between dummy variable OFFSHORE and YEAR2002 which is equal to 1 if a firm-year observation is in a year after 2002 and 0 otherwise, columns (1) and (2) report results from a regression of Tobin's Q on interaction YEAR2002*OFFSHORE and other control variable, while columns (3) and (4) report the same tests with IAQ as the dependent variable. For the models that have Tobin's Q as the dependent variable, the coefficients on interaction YEAR2002*OFFSHORE are -0.060 (p <0.012) in column (1) and -0.055 (p <0.020) in column (2), respectively. In the models that have IAQ as the dependent variable, the coefficients on the interaction are also negatively significant (in column (3) β= -0.066, p<0.005; in column (4) β= -0.063, p<0.007). The results suggest that the series of financial scandals involving OFCs such as Enron and Parmalat that have occurred since 2001, have led investors to reconsider other factors, such as agency costs, except for the tax benefits of offshore firms, especially for Type II offshore

firms.[30] These factors are related not only to legal regimes, flexible regulations and economic crimes of OFCs but also to the complex legal structures and high information asymmetry caused by the secrecy policies of OFCs. As a result, the valuation gap between offshore and non-offshore firms significantly narrows after 2002, providing evidence supporting hypothesis H5b.

[INSERT TABLE 17 HERE]

Results for the difference in firm value between Type I and Type II offshore firms (Table 18) are consistent with hypothesis H5c. Using the offshore sample including Type I and Type II offshore firms, columns (1) and (2) in Table 18 show the results of regressions where Tobin's Q is the dependent variable. Although the model in column (1) does not control for independence of offshore firms, the accruals and real earnings management and cross-listing the coefficients on dummy variable TYPE for both Tobin's Q models are negatively significant, supporting hypothesis H5c. In columns (3) and (4) I use the Industry Adjusted Tobin's Q (IAQ) as the dependent variable respectively. Results are the same as the models that have Tobin's Q as the dependent variable. Therefore, Type I offshore firms are more likely to have lower value than Type II offshore firms after controlling for economic development (GDP), firm-level governance (INDE), accounting standards (USGAAP and IFRS), a firm's characteristics (SIZE, LEVERAGE, PROFIT and GROWTH) and cross-listing (CROSS).

[INSERT TABLE 18 HERE]

The impact of SOX on offshore firm value is presented in Table 19. Using the

[30] I split the offshore sample into Type I and Type II offshore samples to compare to the non-offshore sample respectively after adding the interaction between OFFSHORE and YEAR2002. The results show that the coefficients on the interaction for Type II sample are significantly negative (non-tabulated).

sub-sample of offshore firms that are listed or cross-listed in the U.S. stock markets, columns (1) to (3) show the results with Tobin's Q as the dependent variable while columns (4) to (6) provide the results with IAQ as the dependent variable. Consistent with hypothesis H7, the dummy variable SOX is negative and significant (β= -0.227, $p<0.000$ in column (1); β= -0.235, $p<0.000$ in column (2); and β= -0.214, $p<0.000$ in column (3)) for the model with Tobin's Q as the dependent variable. Moreover, the coefficients on SOX are negatively significant (β= -0.236, $p<0.000$ in column (4); β= -0.244, $p<0.000$ in column (5); and β= -0.212, $p<0.000$ in column (6)) for the model with IAQ as the dependent variable. This suggests that following the enactment of SOX, the value of offshore firms which are listed or cross-listed in the U.S. is significantly reduced. It may be because the series of financial scandals involving OFCs that spurred the enactment of SOX have led investors to revalue offshore firms, especially Type II U.S. offshore firms (which is 96% of the sub-sample for offshore firms listed or cross-listed in the U.S. stock markets) based not only on tax avoidance benefits but also on other factors that affect firm value, such as the complex legal structures and high information asymmetry of their organizations in OFCs.

[INSERT TABLE 19 HERE]

5.3.3 Additional Analyses and Robustness Checks

5.3.3.1 Testing Self-Selection Bias

To address the argument that offshore firm value is driven by certain individual firm attributes and institutional factors of OFCs, I control for self-selection bias using Heckman's (1979) two-stage model.

Larger firms, which have significant tax related debt, along with rapidly growth,

and exhibiting high R&D intensity, are more likely to migrate to or set up affiliates in OFCs (Desai and Hines (2002) and Desai, Foley and Hines (2005)). Other motivation for firms' migrating or setting up affiliates in OFCs may be to reduce the litigation costs and the scrutiny of regulators and auditors. I first estimate a probit selection model of firms' determinants to operate offshore. Following that, I run Equation (14) adding Inverse Mills Ratios (IMR):

$$Prob\ (OFFSHORE) = f\ (OFCINDEX,\ MTB,\ LEVERAGE,\ TAX,\ TAX*LEVERAGE,\ BIG5,\ SIZE,\ INDUSTRY)$$

$$X_{it} = \alpha + \beta_1\ OFFSHORE + \beta_2\ OFCINDEX + \beta_3 OFFSHORE*OFCINDEX + \beta_4 GDP_{it} + \beta_5 TAX + \beta_6\ INDE + \beta_7\ USGAAP + \beta_8\ IFRS + \beta_9\ SIZE_{it} + \beta_{10}\ PROFIT_{it} + \beta_{11}\ GROWTH_{it} + \beta_{12}\ LEVERAGE_{it} + \beta_{13}\ |DAC|_{it} + \beta_{14}\ A\_REM_{it} + \beta_{15} CROSS + \beta_{16} IMR + \varepsilon_{it}, \quad (14)$$

According to Table 16, the results for the Heckman two-stage regressions provide further evidence that my findings are not driven by firm self-selection biases. Specifically, in column (2) and (4) the coefficients on offshore dummy variable (OFFSHORE) are positive and significant at the 1% level in models that use Tobin's Q (β= 0.405, p<0.000) and IAQ (β= 0.243, p<0.000) as dependent variables for the full sample, while in column (7) and (8) the OFFSHORE coefficients are negatively significant based on the Type I sample, -0.106 (p<0.000) and -0.059 (p<0.049) for models that have Tobin's Q or IAQ as dependent variable, suggesting that offshore firms (composed of Type I and Type II offshore firms) are more likely have higher value than non-offshore firms but their tax benefits are offset more for Type I offshore firms than for Type II offshore firms. In addition, the Offshore Attitude Indexes (OFCINDEX) are negatively associated with offshore firm value, which is consistent with hypothesis H6.

[INSERT TABLE 16 HERE]

5.3.3.2 Country-weighted Least Squares

The number of observations for each country or jurisdiction varies among different OFCs (Table 1). Thus, the results may be influenced by the unequal sample size across countries and jurisdictions. To alleviate this concern, I assign proportional weights, based on the number of observations, to each country and re-testing Equation (14) using a full sample including Type I and Type II offshore firms and non-offshore firms, and sub-samples (Type I sub-sample composed of Type I offshore firms and non-offshore firms and Type II sub-sample made up of Type II offshore firms and non-offshore firms). I find no change in the significance and direction of the coefficients on OFFSHORE and the interaction OFFSHORE*OFCINDEX in country-weighted least square (WLS) tests (Table 20). Therefore, results are robust to the uneven country representation in my sample. After dropping the OFCs that are home to the largest number of firms, Singapore and Bermuda, the results still hold.

[INSERT TABLE 20 HERE]

5.3.3.3 Valuation Gap Using the Industry-size Matched Non-offshore Sample

My non-offshore sample includes all available firms that are not registered in OFCs or that have not set up affiliates in OFCs from 37 countries and jurisdictions in the Osiris database. However, one concern is that the results of the narrow valuation gap after 2002 are driven by the unmatched non-offshore sample because those non-offshore firms are different in industry and size from offshore firms. To make my findings more convincing, I matched each firm-year observation of offshore firms with that of non-offshore firms from the same industry and year with the closest firm size. There are 10,309 firm-year observations in the industry-size matched non-offshore sample. Using the one by one matched non-offshore sample, I calculate the different firm-year value of Tobin's Q (Q_Diff) and IAQ (IAQ_Diff) between

offshore and non-offshore firms. I then repeat the tests by using Q_Diff and IAQ_Diff as dependent variables respectively and adding YEAR2002 dummy variable which is equal to 1 if an observation is in a year after 2002 and 0 otherwise. In Table 21, the dummy variable YEAR2002 is negatively significant on a 5% or 10% level for all models. Therefore, it is evident from Table 21 that after 2002 the valuation gap between offshore and non-offshore firms narrows.

[INSERT TABLE 21 HERE]

5.3.3.4 Firm Institutional Ownership

Previous studies (LaPorta et al. (1999), Fan and Wong (2002) and Haw et al. (2004)) find that a firm's institutional ownership is an important factor for firm value. When ownership in a firm is concentrated, the controlling shareholders are likely to have an undue influence over management, whereby they secure self benefits that are unfavorable to minority shareholders. However, because there are many missing ownership variables of offshore firms, I do not include this proxy in the testing models. Adding an ownership proxy (the percentage of common shares owned by the top three shareholders) to the set of control variables does not change my main findings. In contrast, results in Table 22 become stronger than the results in Table 15 after controlling for a firm's institutional ownership.

[INSERT TABLE 22 HERE]

5.3.3.5 Accounting Measures as Dependent Variables

Another concern is that my results about offshore firm value are simply because offshore firms are more profitable than non-offshore firms, so offshore firms trade at

higher prices relative to non-offshore firms. To address this concern, I use the accounting measure of operating performance (EBITDA over assets (ROA), or EBITDA over book equity (ROE)) as dependent variable of Equation (14) to regress OFFSHORE dummy variable for the full sample (including offshore and non-offshore firms), Type I sample (Type I and non-offshore firms) and Type II sample (Type II and non-offshore firms), respectively. Here, I take into account the profitability of offshore firms more deeply by asking whether offshore firms perform better than non-offshore firms based on the measures of before-tax operation performance (Scott, Ramabhadran and Chad (2008)).

In Table 23, I find that except for the model with EBITDA-on-Assets (ROA) as the dependent variable for Type II sample, all coefficients on ROA or ROE for other models are not significant. For example, using full sample, the coefficients on the offshore dummy variable (OFFSHORE) are 0.008 ($p<0.108$) and 0.003 ($p<0.955$) for models that have ROA or ROE as the dependent variable, respectively. This result leads me to conclude that offshore firms to a large extent exhibit neither better nor worse operating performance compared to non-offshore firms. Therefore, the firm value difference between offshore firms (including Type I and Type II offshore firms) and non-offshore firms, or between the Type I offshore firms and non-offshore firms is driven by other factors, such as tax avoidance benefits, governance mechanisms or the specific institutions characteristic of OFCs.

[INSERT TABLE 23 HERE]

Chapter 6 –Discussion

Zingales (2000) argues that the increasing global competition, the growth in international business, the changing nature of the physical assets of companies, in addition to the growing importance of human resources for firms has led to profound changes to the concept of 'firm'. However, the existing theories do not take into account the changes concerning capital structure, corporate governance and firm value for these rapidly emerging new firms. Therefore, fundamental questions about these new types of companies, such as financial reporting quality and firm value are essential to current studies.

Zingales' (2000) argument is illustrated by the dramatically increasing numbers of offshore firms. Although offshore firms are registered in or have set up affiliates in OFCs, they have limited physical assets in OFCs while their businesses are spread all over the world. Therefore, offshore firms are subject to different institutional environments, from countries or jurisdictions like OFCs with lower or zero tax burdens but looser legal regimes and flexible regulations for investor protection, to countries like the U.S and the U.K with the strictest legal regimes and regulations in the world (LaProta et al. (1997), (1998), and (2008)). Most importantly, offshore firms have complex legal structures, because they are combination of those from their country of listing, the country or jurisdiction where they are incorporated, and the countries where they operate their businesses. The complexity of the legal structures of offshore firms allows managers or controlling shareholders to shift their governance behavior. As a result, the appearances of good governance based on one-country mapping are overvalued compared to the reality of achieving it. Besides the complex legal structures of offshore firms, the unique characteristics of OFCs may

also distort the investor protection of offshore firms even for Type II U.S. and U.K. firms that set up affiliates in OFCs but are registered in the U.S. or the U.K., two countries that have the strongest investor protection index.

By investigating the quality of financial reporting and firm value of offshore firms using a large sample including 10,553 firm-year observations from 21 OFCs, I find that offshore firms (including Type I and Type II offshore firms) are more likely to engage in earnings management both in accruals and real earnings activities than non-offshore firms. In the short-run, market investors do not have significantly positive reactions to an announcement that a firm is going to merge a company in or migrate to an OFC after 2002. In long-run for the full sample (including Type I and Type II offshore firms), investors assign a higher value to offshore firms compared to non-offshore firms, most likely due to their tax benefits. However, results also show that in the long run the value of Type I offshore firms is significantly less than that of non-offshore firms but the value of Type II offshore firms is significantly higher than that of non-offshore firms. Therefore, investors' value-added behavior only matters to those offshore firms with headquarters in countries or jurisdictions that have strict legal regimes and regulations, which are Type II offshore firms. In other words, investors pricing the stock of a firm not only look at the tax benefits, but also consider whether the tax benefits can be protected based on legal origins and regulations. Thus, my findings imply that legal origins are very important for offshore firm value, providing new evidence for prior studies which test the association between legal origins and firm value (e.g. Shleifer and Wolfenzon (2002)).

After I analyze more deeply offshore firms concerning their financial reporting quality and firm value, however, I find that the governance mechanisms based on one-country mapping legal origin does not tell the whole story. First, in terms of

financial reporting quality, Type II offshore firms also significantly manage more earnings than non-offshore firms although they are based in countries with the strictest legal regimes and regulations. In addition, the series of financial scandals that have occurred since 2001 seem to have led investors to reevaluate the complex legal structures of offshore firms (especially Type II offshore firms) rather than just considering the legal origins of these firms, leading to a significant narrowing of the valuation gaps between offshore and non-offshore firms. These findings imply that when we study issues concerning corporate governance mechanisms, especially in an international setting, as researchers we may need to go further than the legal origin of a company and investigate different aspects of a firm's governance mechanisms, not only considering their legal origins but also examining the legal regimes that they are listed or incorporating in.

As I discussed in Chapter 2, most OFCs have flexible regulations which may provide an environment for offshore firms to operate their business more efficiently or profitably. However, my results indicate that the flexible regulations of OFCs are more likely to encourage offshore firms to manage their earnings and decrease investor protection that in turn deteriorates firm value. For instance, offshore firm value significantly decreases as the Offshore Attitude Indexes, which measure the features that characterize OFCs, increase. Therefore, my findings strongly suggest that regulations do matter for firms' financial reporting quality and public shareholder wealth. Results about the effects of SOX also provide further evidence of this. For example, the valuation gap between offshore and non-offshore firms significantly decreased after the enactment of SOX in 2002, indicating that after 2002 investors of offshore firms may pay more attention to the governance mechanisms of offshore firms instead of only to the tax avoidance benefits.

However, in fact, only a few years after SOX was enacted, some lobbyists began to claim that significant regulations were stifling innovation. Schmidt (2006) posits that:

"Mr. Factor (founder of the New York merchant banking firm, Mallory Factor) has assembled a Republican dream team of lawyers, including Kenneth Starr who investigated Bill Clinton, to press his case. Their goal is to prompt Congress to scale back the law and reduce compliance costs for companies... (the) lawsuit is part of a four-year campaign by opponents of the Sarbanes-Oxley law, which they said stifled innovation by saddling companies with burdensome regulation. The U.S. Chamber of Commerce which lobbied on behalf of 3 million companies, and some law-makers, urged Securities and Exchange Commission chairman Christopher Cox to relax other accounting requirements in the statute. (p.12)"

These kinds of reactions, combined with the findings of my thesis may make regulators more cautious when responding to those demanding more deregulation.

Moreover, because of globalization which is increasing the complexity of company structures, many multinational firms operate their business in different countries and jurisdictions. Some firms can take advantage of "regulation arbitrage", as Enron and Parmalat did. This study also provides empirical evidence that different regulatory systems impact on the financial reporting quality and firm value of offshore firms. For instance, Type I offshore firms are more likely manage accruals than Type II offshore firms because they are less likely to be scrutinized by regulators. Therefore, enhancing a co-regulatory system, such as securities, accounting or corporate governance is necessary. Responding to this necessity, G20 countries and jurisdictions issued a declaration to boost global cooperation in London on April 2nd of 2009.

Consistent with Desai and Dharmapala (2009a), results of this study suggest that tax shelters significantly increase the earnings management of offshore firms, distorting their financial reporting quality. In addition, tax benefits do not necessarily increase the value of offshore firms. For instance, Type I offshore firms exhibit

significantly lower value than non-offshore firms in my study. These findings give market investors evidence that although tax benefits seem to transfer value to public shareholders, in the long-run the increased risks of opaque financial information and insider expropriation of offshore firms, especially Type I offshore firms, may destroy their investment. Moreover, according to my findings, OFC governments may recognize that although zero or low taxation is an attractive policy, the negative side-effects may also push them to reform this policy. For instance, on October 4th, 2009, the Cayman Islands announced that the government would think about increasing tax rates.[31]

Finally, my findings also provide implications for auditors. Although most offshore firms are clients of Big4, they still are more likely to manage earnings than non-offshore firms. In addition, Type I and Type II offshore firms focus on different alternatives of earnings management based on their institutional legal environment and litigation risks. Therefore, auditors may consider different alternatives of earnings management for different types of offshore firms. Therefore, this research provides new insights about offshore firms for governments, regulators, auditors and market participants, especially for academia which is focusing on international accounting issues.

[31] Data sources: *The New York Times* website, http://www.nytimes.com

Chapter 7 – Conclusion

This thesis concentrates on the implications for an offshore firm's value and quality of its financial reporting. Prior studies have focused on OFCs, with much less attention having been devoted to offshore firms. In effect, except for tax avoidance, I am not aware of any prior work exploring these important and fundamental perspectives concerning firms that are registered in or set up affiliates in OFCs, especially studies linking firm value and financial reporting quality to the characteristics of OFCs in an international setting. Therefore, this study contributes to research on offshore financial centers, on governance at the country-level and firm-level, and extends the literature of earnings management and firm value into new territory, providing new perspectives on the relationship between a firm's institutions, its governance and its value and financial reporting.

In Chapter 2, I investigate the institutional background of OFCs and the impact of OFCs' characteristics on offshore firms. Explicitly, in most offshore financial centers zero or low taxation plays a very important role because these countries or jurisdictions do not have an abundance of natural resources that can help them create wealth. Zero or low tax rates attract financial or non-financial companies alike to register in or set up affiliates in OFCs. In addition, in OFCs, there are many financial companies providing services for non-residents. However, because of the loose legal regimes, flexible regulations and secrecy policies of most OFCs, many OFCs serve as platforms for economic crime, such as money laundering. In order to maintain zero or low taxation, most OFCs are not willing to cooperate with other countries, such as the U.S. and Canada, to deal with tax evasion and economic crimes.

Under these specific and unique institutional environments, offshore firms are not only significantly affected by their complex firm-level legal structures but also by the characteristics of OFCs, such as legal institutional environments, economic development, flexible regulations, economic crimes and secrecy policies. These distinctive aspects of OFCs make it easier for offshore firms to engage in the distortion of financial reporting. In addition, the agency costs of offshore firms offset the added value that they supposedly gain through tax avoidance benefits.

Investigating the quality of financial reporting of offshore firms measured by earnings management is one of the main objectives of this research. Specifically, I explore if offshore firms are more likely to engage in earnings management than non-offshore firms, and how offshore firms manage their earnings as the Offshore Attitude Index increases. Further, I examine how SOX has impacted offshore firms that are listed or cross-listed in the U.S. stock markets. Using a large sample of 2,207 offshore firms with 10,553 firm-year observations from 21 OFCs across the world, I find that offshore companies are more likely to engage in both accruals and real earnings management. In addition, consistent with my hypothesis, managers of offshore firms that incorporate in OFCs with higher Offshore Attitude Indexes prefer to choose accruals to increase their reported earnings rather than real earnings activities. Finally, the results also indicate that accruals management of offshore firms that are listed or cross-listed in the U.S. stock markets has declined significantly since SOX was enacted. Consequently, this study contributes to the growing literature on the quality of international financial reporting and earnings management. Prior evidence about this issue is limited and incomplete. The findings in this study show the features of OFCs and how the complex legal structures which are beyond the simple legal origin of one-country mappings affect the financial reporting of offshore

firms. Further, this research sheds additional light on earnings management alternatives by showing the association between the characteristics of OFCs and the alternatives of earnings management of offshore firms.

The impact on firm value of firms operating in OFCs is another main focus of my study. On the one hand, firms that are registered in or set up affiliates in OFCs (Type I and Type II offshore firms) obtain tax avoidance benefits, which supposedly add to firm value. On the other hand, to a large extent OFCs' specific institutional factors and the complex legal structures of offshore firms offset their firm value, especially for Type I offshore firms that have higher attributes of OFCs than Type II offshore firms. Thus, my findings document that offshore firms (including Type I and Type II offshore firms) are worth more than non-offshore firms, but the firm value of Type I offshore firms is significantly less that non-offshore firms while Type II offshore firms enjoy higher valuation premiums relative to non-offshore firms. However, the valuation premiums of all offshore firms have been significantly reduced after the series of financial scandals involving OFCs have occurred since 2001. Investors may re-price offshore firms, considering the OFCs' features and the complex legal structures of offshore firms that are largely related to investor protection. To account for the heterogeneity of OFCs, I also find a negative relationship between the Offshore Attitude Indexes and firm value, indicating that firms from OFCs with higher indexes benefit less from their offshore base because of the interacted effects of their loose legal regimes, flexible regulations, economic crimes and secrecy policies. Finally, the results posit that after the enactment of SOX, the valuation of firms listed or cross-listed in the U.S. stock markets significantly decreases.

Although this thesis is one of the first steps in exploring impacts other than just the tax avoidance benefits for a firm's operation in OFCs globally, it leaves some

questions unresolved. First of all, besides Masciandaro's (2006) comprehensive Offshore Attitude Indexes, there are not systematic and specific measures that capture the different aspects of OFCs' characteristics, such as their legal regimes, regulation strictness, and economic crime pollution levels. Therefore, I cannot thoroughly analyze the extent to which the different aspects of OFCs' features have impacted the quality of financial reporting and firm value of offshore firms. As a result, some findings of this thesis need to be interpreted with caution. Secondly, the Osiris database mainly provides cash flow data since 1998, and there are many omitted observations in terms of corporate governance information of offshore firms.

In light of this thesis, there are many other issues concerning offshore firms that can be explored by future research. For instance, an interesting study would be to evaluate the use of equity-based compensation in offshore firms and analyze whether managerial opportunism, as reflected in enhanced compensation packages, underlies the drive to use OFCs to raise capital. I propose that management compensation of offshore firms is different from non-offshore firms. Moreover, based on the loose legal regimes and the secrecy of OFCs, insiders in offshore firms, such as managers or controlling shareholders, can enhance their wealth, or easily expropriate minority shareholders of listed firms through management compensation. Another valid question is whether the reduced risks of government expropriation of offshore firms encourage offshore firms to grant more equity-based compensation.

Further, using proxies of earnings management, my thesis examines the quality of financial reporting of offshore firms and the link between the characteristics of OFCs and offshore firms engaging in earnings management. However, another literature stream about financial reporting quality is conservatism. The unique institutional characteristics of OFCs may lead offshore firms to be less conservative, which

decelerates the recognition of bad news in earnings and in turn decreases the reliability of reported earnings (Watts (2003), Bushman and Piotroski (2006), LaFond and Watts (2008)), even for U.S Type II offshore firms. Therefore, it would be worthwhile to investigate the conservatism of offshore firms.

Overall, this study seeks to address two important and fundamental questions about firms' reliance on OFCs: the quality of financial reporting and firm value. With globalization, offshore firms as a new type of firm are dramatically emerging around the world. Although the majority of jurisdictions that operate as OFCs have a Common Law based legal system (Dharmapala (2008)), the flexible regulations, economic crimes, and secrecy policies of most OFCs all adversely affect the quality of financial reporting and firm value of offshore firms. My research provides further evidence for academics, governments and practitioners: that except for tax avoidance, other perspectives concerning firms' operation in OFCs, such as financial reporting quality and firm value, should not be ignored.

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Figure 1: Research Framework

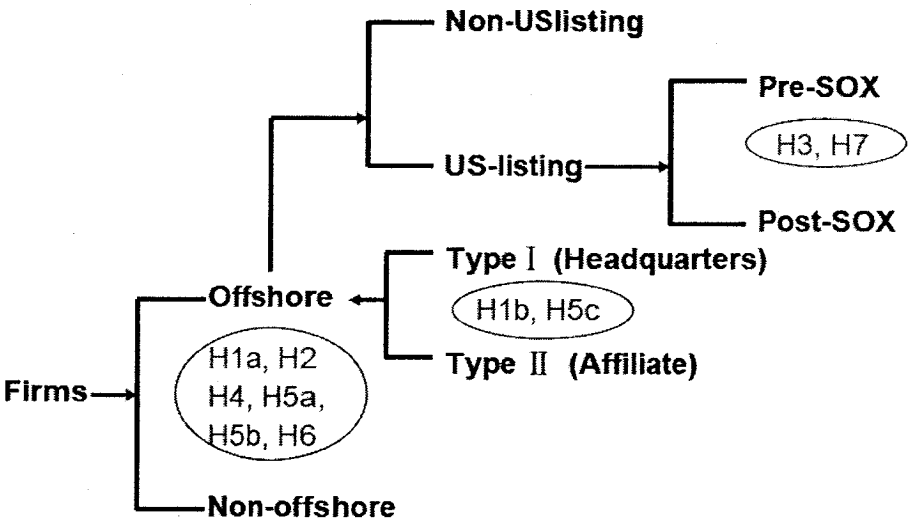


Figure 2: Geographical distribution of Offshore Financial Centers.
Source: *The Economist* survey (February 22, 2007).

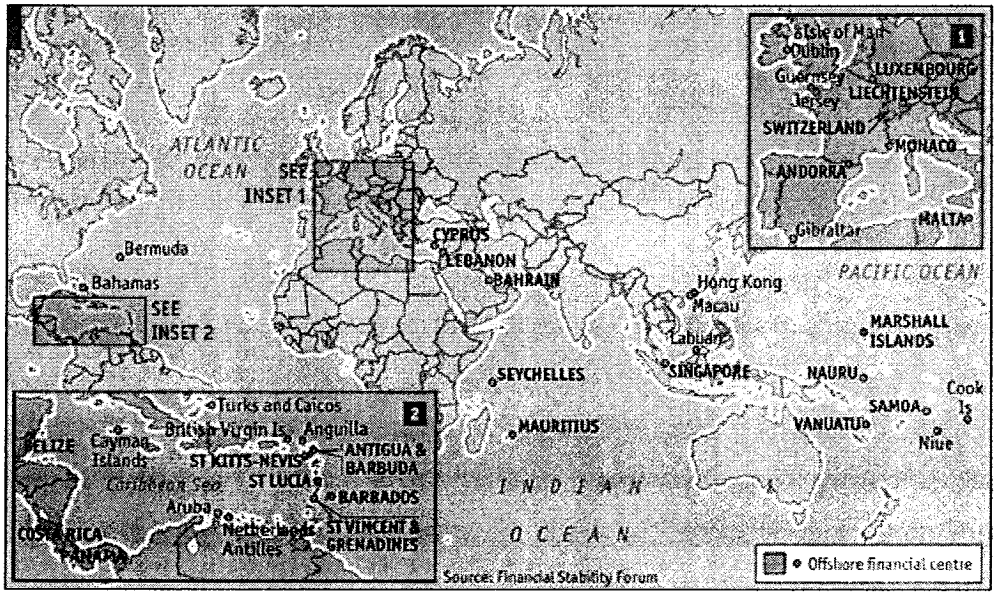
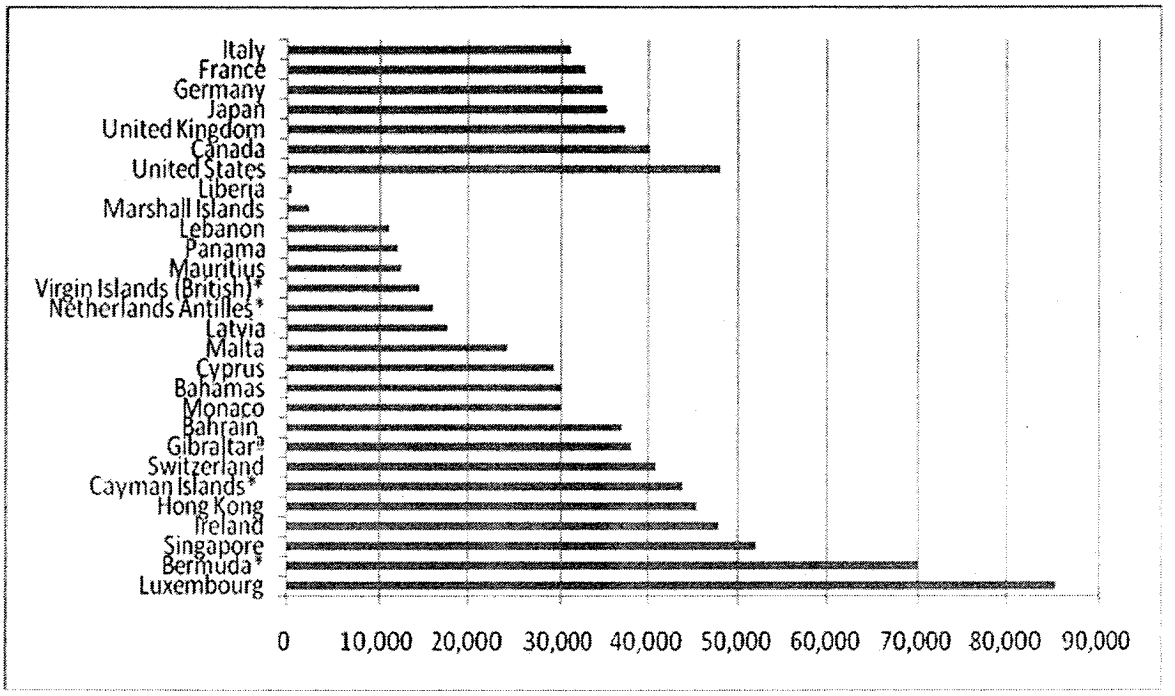


Figure 3: GDP per capita of Offshore Financial Centers and G7 Countries.



GDP per capita is expressed in 2008 U.S. dollars. Source: *CIA World Factbook (2008)*. * denotes 2004 estimates and [a] 2005 estimates.

Table 1
Offshore Firms by Jurisdictions and Offshore Attitude Index

This table shows the distribution of offshore firms by different Offshore Financial Centers (OFCs) as of December 31, 2007. Panel A lists Type I offshore firms located in 21 OFCs. Type I offshore firms are firms registered in OFCs. The Offshore Attitude Index is from Masciandaro (2006). It is the index that measures attitudes towards OFCs based on multiple factors such as potential national benefits, political stability, regulations enforcement, the presence of crime, and an inclusion in one of the OFCs' blacklists: Financial Stability list, FATF list of Non Cooperative Countries and Territories, and OECD list of tax havens. The index is equal to 0 if a country shows a strong onshore attitude; 1 if a country does not show a strong onshore attitude but it was not listed in one of the blacklists; 2, 3, and 4 if a country was present in one, two, or three blacklists, respectively. Panel B lists the type II offshore firms. Type II offshore firms are U.S. and U.K. firms that set up affiliates in OFCs. The Offshore Attitude Index values for the U.S. and U.K. are 0.

Panel A Type I Offshore Firms

OFC	Country Code	Offshore Attitude Index	Number of Type I Offshore firms	Firm-year Observations	Percentage Firm-year Observations
Bahamas	BS	5	6	33	0.26
Bahrain	BH	3	13	87	0.70
Bermuda	BM	2	483	3,659	29.26
Cayman Islands	KY	4	348	1,974	15.79
Cyprus	CY	4	4	16	0.13
Gibraltar	GI	3	3	9	0.07
Hong Kong	HK	1	111	968	7.74
Ireland	RE	0	61	430	3.44
Latvia	LV	1	31	153	1.22
Lebanon	LB	3	2	10	0.08
Liberia	LR	4	3	14	0.11
Luxembourg	LU	1	23	136	1.09
Malta	MT	2	3	16	0.13
Marshall Islands	MH	5	7	21	0.17
Mauritius	MU	3	24	172	1.38
Monaco	MC	3	1	9	0.07
Netherlands Antilles	AN	4	5	36	0.29
Panama	PA	5	12	52	0.42
Singapore	SG	2	495	3,376	27.00
Switzerland	CH	0	155	1,246	9.97
Virgin Islands (British)	VG	4	16	85	0.68
Total:			1,806	12,502	100
Average:		2.810			

Table 1 (continued)

Offshore Firms by Jurisdictions and Offshore Attitude Index

Panel B Type II Offshore Firms

OFC	Number of Type II Offshore Firms			Firm-year Observations		
	U.S. Firms	U.K. Firms	Total	U.S. Firms	U.K. Firms	Total
Bahamas	41	0	41	264	0	264
Bahrain	13	0	13	120	0	120
Bermuda	234	0	234	1,552	0	1,552
Cayman Islands	235	30	265	1,520	201	1,721
Cyprus	48	15	63	337	98	435
Gibraltar	24	6	30	168	42	210
Hong Kong	398	107	505	2,640	736	3,376
Ireland	363	203	566	2,219	1,301	3,520
Latvia	27	11	38	188	71	259
Lebanon	13	3	16	89	18	107
Liberia	14	0	14	92	0	92
Luxembourg	214	58	272	1,246	403	1,649
Malta	14	0	14	86	0	86
Marshall Islands	5	0	5	34	0	34
Mauritius	108	10	118	752	63	815
Monaco	5	1	6	27	7	34
Netherlands Antilles	44	0	44	238	0	238
Panama	77	10	87	469	63	532
Singapore	429	95	524	3,001	605	3,606
Switzerland	390	88	478	2,605	606	3,211
Virgin Islands (British)	130	52	182	864	354	1,218
Total	2,826	689	3,515	18,511	4,568	23,079

Notes: Some U.S. and U.K. firms have affiliates in different OFCs. Therefore, in this table some U.S. and U.K firms are counted more than once. The Type II offshore sample in Table 2 shows the sample of Type II offshore firms after refined process in which every U.S. or U.K. firm is only counted one time.

Table 2

Offshore Sample Construction Process and Full Sample Structure

Panel A Construction Process of Offshore Sample	
Offshore firms in 21 OFCs as of 2007	3196
Type I offshore firms	1806
Type II offshore firms after refined process	1390
Firm-year observations of offshore firms from 1998 to 2007	24542
Less: Firm-level variables are unavailable	13602
Available firm-year observations	10940
Less: Observations with extreme values	387
Number of total observations	10553

Panel B Sample Structure

	Offshore Sample			Non-offshore Sample	Full Sample
	Type I	Type II	Total		
Firms	1,024	1,183	2,207	8,257	10,464
Firm-year Observations	3,580	6,973	10,553	30,621	41,174

Table 3

Summary Statistics for Offshore Firms

This table reports summary statistics of the main variables for the entire sample of offshore companies (Type I and Type II offshore samples combined) in Panel A and by industry in Panel B. All of the variables are defined in Appendix A.

Panel A Summary Statistics of Offshore Firms

Variable	N	25th percentile	Mean	Median	75th percentile	Standard Deviation
DAC	10,553	-0.104	-0.017	0.004	0.091	0.342
|DAC|	10,553	0.039	0.222	0.098	0.228	0.346
P_DAC	10,553	0.043	0.167	0.099	0.204	0.205
A_CFO	10,553	-0.096	0.031	0.016	0.149	0.427
A_DISE	10,553	-0.176	-0.025	-0.061	0.079	0.283
A_PROD	10,553	-0.109	0.005	0.029	0.152	0.310
A_REM	10,553	-0.352	-0.002	0.037	0.343	0.753
TYPE	10,553	0	0.339	0	1	0.473
SOX	10,553	0	0.659	1	1	0.474
TAX	10,553	0.180	0.273	0.353	0.353	0.110
LOG_GDP	10,553	12.338	14.260	16.443	16.443	3.017
OFCINDEX	10,553	0	0.648	0	2	1.109
BIG5	10,553	1	0.809	1	1	0.393
USGAAP	10,553	0	0.579	1	1	0.494
IFRS	10,553	0	0.380	0	1	0.485
LITIGATE	10,553	0	0.392	0	1	0.488
CL	10,505	0.161	0.285	0.245	0.360	0.417
INVREC	10,505	0.102	0.235	0.194	0.332	0.174
DISTRESSED	10,505	1	0.766	1	1	0.424
INDE	10,553	0	2.977	5	7	4.016
OWNERSHIP (%)	5,891	8.700	17.725	11.810	17.680	16.448
MTB	10,553	1.032	3.376	1.852	3.320	11.216
NETI	10,553	0.004	0.019	0.044	0.087	0.540
SIZE	10,553	11.000	12.576	12.598	14.200	2.252
LEVERAGE	10,553	0.320	0.491	0.492	0.634	0.314
GROWTH	10,553	-0.018	0.026	0.084	0.194	0.449
PROFIT (%)	10,553	0.360	1.719	4.410	8.650	15.288
Q	10,553	0.590	1.352	0.945	1.585	1.331
IAQ	10,553	-0.566	0.160	-0.197	0.409	1.296

Table 3 (Continued)

Summary Statistics for Offshore Firms

Panel B Observations of Offshore Firms by Industry

Industry	ICB code in the Osiris Database	Observations
Energy	0533 0537 0573 0577	416
Materials	1353-1779	639
Industrial	2353-2799 3353-3785	5,187
Consumer Discretionary	5333-5379	628
Consumer Staples	5553-5759	732
Health Care	4533-4577	760
Information Technology	6535 6575	89
Telecommunication Services	9533-9578	1,931
Utilities	7535 7573-7577	171
Total		10,553

Table 4

Correlation Coefficients of Financial Reporting Quality

This table reports pairwise correlation coefficients between the main variables concerning offshore firms financial reporting quality based on the entire sample of offshore (Type I and Type II offshore samples combined) and non-offshore companies. *, **, *** indicate significance at the 10%, 5%, and 1% levels respectively, using two-tailed tests. All of the variables are defined in Appendix A.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. |DAC|	1.000	-0.001	0.040***	-0.014***	0.039***	-0.063***	-0.009*	-0.061***	0.025***	-0.021***	-0.008*	0.021***	0.019***	0.057***	-0.074***	-0.011**	0.023***	-0.005
2. A_CFO		1.000	-0.009*	-0.080***	0.007	0.021***	-0.000	-0.002	-0.004	0.015***	0.006	0.004	0.006	0.097***	0.033***	-0.051***	-0.035***	-0.002
3. A_DISE			1.000	-0.131***	0.011**	-0.006	0.001	-0.001	-0.020***	0.007	0.009*	0.009*	-0.006	-0.011**	0.039***	0.003	0.011**	0.006
4. A_PROD				1.000	-0.007	-0.005	-0.014***	-0.060***	0.099***	-0.030***	0.006	0.013***	-0.011**	-0.059***	-0.046**	0.084***	0.051***	0.035*
5. OFFSHORE					1.000	-0.215***	-0.053***	-0.065***	0.187***	0.263***	0.040***	-0.166***	0.001	0.029***	0.169***	-0.161***	-0.044***	-0.027
6. SOX						1.000	0.009*	-0.067***	0.056***	-0.066***	-0.017***	0.103***	0.006	0.048***	-0.033***	0.024***	0.019***	-0.022
7. TAX							1.000	0.080***	-0.109***	0.016***	0.002	-0.028***	0.001	-0.005	0.032***	-0.002	-0.010**	0.007
8. LOG_GDP								1.000	-0.781***	0.021***	0.164***	-0.441***	0.019***	-0.067***	0.180***	0.009*	-0.058***	0.016*
9. OFCINDEX									1.000	-0.102***	-0.099***	-0.159***	-0.014***	0.062***	-0.184***	-0.075***	0.045***	0.009*
10. BIG5										1.000	-0.011**	0.048***	-0.007	0.073***	0.377***	-0.119***	-0.092***	-0.046
11. LITIGATE											1.000	0.065***	0.020***	-0.088***	-0.095**	0.051***	-0.005	-0.067
12. INDE												1.000	-0.018***	0.031***	-0.028***	0.072***	0.055***	0.009*
13. MTB													1.000	-0.027***	-0.033***	-0.006	0.058***	-0.001
14. NETI														1.000	0.187***	0.027***	-0.045***	-0.133
15. SIZE															1.000	-0.017***	0.030***	-0.026
16. INVREC																1.000	0.284***	-0.218
17. CL																	1.000	0.044*
18. DISTRESSED																		1.000

Table 5

Univariate Tests

This table reports mean comparison tests (based on t-tests) and median comparison tests (based on Z-tests) for main variables. Panel A compares the offshore firms sample with the non-offshore firm sample. Panel B compares the Type I offshore firms sample with the Type II offshore firms sample. Type I offshore firms are firms registered in OFCs. Type II offshore firms are U.S. and U.K. firms that set up affiliates in OFCs. The null hypothesis is that the means and medians are different across the corresponding sub-samples. *, **, *** indicate significance at the 10%, 5%, and 1% levels (based on a two-tailed test), respectively. All of the variables are defined in Appendix A.

Panel A Offshore and Non-offshore Firms

	Offshore Firms			Non-Offshore Firms			Difference in means	Difference in medians
Variable	**N**	**Mean**	**Median**	**N**	**Mean**	**Median**	**t-test**	**Z-test**
OFCINDEX	10,553	0.648	0.000	30,621	0.325	0.000	-29.03***	11.15***
LOG_GDP	10,553	14.260	16.443	30,621	14.615	14.994	11.59***	16.42***
TAX	10,553	0.273	0.353	30,621	0.358	0.340	17.50***	-51.85***
DAC	10,553	-0.017	0.004	30,621	0.029	0.024	14.22***	-18.45***
|DAC|	10,553	0.222	0.098	30,621	0.160	0.088	-17.01***	9.32***
P_DAC	5,415	0.183	0.088	17,875	0.162	0.102	-5.61***	-4.825***
A_CFO	10,553	0.031	0.016	30,621	-0.019	-0.008	-14.12***	16.82***
A_DISE	10,553	-0.025	-0.061	30,621	-0.038	-0.071	-4.04***	3.25***
A_PROD	10,553	0.005	0.029	30,621	0.001	0.032	-1.05	2.24**
A_REM	10,553	-0.002	0.037	30,621	0.064	0.119	8.24***	-13.95***
BIG5	10,553	0.809	1	30,621	0.520	1	-60.51***	52.13***
USGAAP	10,553	0.579	1	30,621	0.267	0	-57.53***	58.13***
IFRS	10,553	0.380	0	30,621	0.278	0	-18.86***	19.51***
LITIGATE	10,553	0.392	0	30,621	0.346	0	-8.36***	8.48***
CL	10,505	0.258	0.245	29,666	0.311	0.281	6.26***	-17.13***
INVREC	10,505	0.235	0.194	29,666	0.303	0.284	33.89***	-34.14***
DISTRESSED	10,505	0.766	1	29,666	0.791	1	5.31***	-5.42***
INDE	10,553	2.977	5.000	30,621	4.596	5.000	34.99***	-35.40***
SIZE	10,553	12.576	12.598	30,621	11.830	11.786	-30.26***	31.24***
NETI	10,553	0.019	0.044	30,621	-0.003	0.032	-3.96***	15.74***
LEVERAGE	10,553	0.491	0.492	30,621	0.497	0.509	6.53***	-6.54***
GROWTH	10,553	0.026	0.084	30,621	0.037	0.074	2.19**	4.31***
PROFIT (%)	10,553	1.719	4.410	30,621	0.344	3.190	-7.87***	15.38***
MTB	10,553	3.376	1.852	30,621	3.346	1.497	-0.14	20.81***
Q	10,553	1.352	0.945	30,621	1.125	0.811	-15.74***	17.36***
IAQ	10,553	0.160	-0.197	30,621	-0.055	-0.318	-15.28***	16.41***

Table 5 (Continued)

Univariate Tests

Panel B Type I and Type II Offshore Firms

	Type I			Type II			Difference in means	Difference in medians
Variable	**N**	**Mean**	**Median**	**N**	**Mean**	**Median**	**t-test**	**Z-test**
OFCINDEX	3,580	1.911	2.000	6,973	0	0.000	-103.99 ***	91.79***
LOG_GDP	3,580	10.484	12.135	6,973	16.199	16.443	158.09***	-93.68***
TAX	3,580	0.131	0.175	6,973	0.346	0.353	187.59***	-93.73***
DAC	3,580	0.033	0.039	6,973	-0.024	-0.009	-1.94**	15.45***
|DAC|	3,580	0.404	0.129	6,973	0.229	0.082	-5.55***	16.44***
P_DAC	2,049	0.372	0.128	3,366	0.220	0.068	-4.00***	17.32***
A_CFO	3,580	0.002	-0.021	6,973	0.011	0.031	0.25	-12.00***
A_DISE	3,580	-0.012	-0.110	6,973	0.005	-0.038	0.65	-17.99***
A_PROD	3,580	0.085	0.080	6,973	-0.045	0.004	-15.22***	19.85***
A_REM	3,580	0.157	0.175	6,973	-0.084	-0.019	-14.76***	18.86***
BIG5	3,580	0.711	1	6,973	0.859	1	17.16 ***	-18.35***
USGAAP	3,580	0.015	0	6,973	0.869	1	188.84***	-84.15***
IFRS	3,580	0.896	1	6,973	0.115	0	-122.51***	78.24***
LITIGATE	3,580	0.259	0.000	6,973	0.460	0.000	21.34***	-20.08***
CL	3,532	0.323	0.282	6,973	0.266	0.234	-4.87***	10.98***
INVREC	3,532	0.266	0.248	6,973	0.219	0.183	-12.01***	8.39***
DISTRESSED	3,532	0.745	1	6,973	0.776	1	3.52***	-3.57***
INDE	3,580	1.531	1.000	6,973	5.792	7.000	-59.28***	-64.65***
SIZE	3,580	11.253	11.216	6,973	13.256	13.428	50.12***	-45.99***
NETI	3,580	0.035	0.041	6,973	0.011	0.047	-1.74*	-1.90*
LEVERAGE	3,580	0.439	0.443	6,973	0.503	0.516	15.09***	-14.78***
GROWTH	3,580	-0.051	0.077	6,973	0.065	0.088	10.51***	-4.17***
PROFIT (%)	3,580	1.704	4.080	6,973	1.727	4.620	0.07	-1.61
MTB	3,580	2.477	1.096	6,973	3.838	2.277	5.57***	-38.71***
Q	3,580	0.534	0.647	6,973	1.565	1.118	25.41***	-35.34***
IAQ	3,580	-0.199	-0.458	6,973	0.345	-0.044	22.29***	-30.41***

Table 6A
Multivariate Tests for Accruals Management of Offshore Firms

This table reports panel regression estimates with accruals management measures (abnormal accruals (DAC), the absolute value of abnormal accruals (|DAC|), and positive abnormal accruals (P_DAC)) as dependent variables. The regressions with DAC and |DAC| as dependent variables use full sample including Type I and Type II offshore firms and non-offshore firms, while the regression with P_DAC as dependent variable uses a sub-sample of which every firm-year observation has positive DAC. Each regression includes industry fixed effects. Firm or country fixed effects are not included because OFCINDEX variable does not vary through time and across countries. To account for error term correlation within countries, standard errors are clustered by countries. The standard errors are robust to heteroschedasticity. The numbers in parentheses are probability levels at which the null hypothesis of zero coefficient can be rejected. *, **, *** indicate significance at the 10%, 5%, and 1% levels (based on a two-tailed test), respectively. (H1a) and (H2) refer to the first-a and second hypotheses described in the text, respectively. All of the variables are defined in Appendix A.

	DAC	|DAC|	P_DAC
OFFSHORE (H1a)	0.133***	0.192***	0.274***
	(0.000)	(0.000)	(0.000)
OFCINDEX	-0.001	-0.061***	-0.047***
	(0.831)	(0.000)	(0.000)
OFFSHORE*OFCINDEX (H2)	0.013***	0.035***	0.036***
	(0.005)	(0.000)	(0.000)
TAX	-0.000	-0.003	-0.002
	(0.976)	(0.129)	(0.370)
LOG_GDP	0.004**	-0.018***	-0.010***
	(0.023)	(0.000)	(0.000)
BIG5	-0.009**	-0.012***	-0.009***
	(0.012)	(0.001)	(0.009)
OFCINDEX*BIG5	-0.005	-0.019***	-0.016***
	(0.226)	(0.000)	(0.001)
USGAAP	-0.022***	-0.017***	-0.009*
	(0.000)	(0.001)	(0.082)
IFRS	0.003	-0.004	-0.001
	(0.489)	(0.248)	(0.798)
LITIGATE	0.002	-0.029***	-0.023***
	(0.433)	(0.000)	(0.000)
OFCINDEX*LITIGATE	-0.000	0.026***	0.023***
	(0.921)	(0.000)	(0.000)
INDE	0.001	0.000	0.001**
	(0.201)	(0.444)	(0.045)
SIZE	-0.014***	-0.015***	-0.014***
	(0.001)	(0.000)	(0.000)
MTB	0.000	0.009***	0.007***
	(0.520)	(0.000)	(0.000)
NETI	0.317***	0.106***	0.062***
	(0.000)	(0.000)	(0.000)
OFFSHORE*SIZE	-0.014***	-0.010***	-0.020***
	(0.000)	(0.000)	(0.000)
OFFSHORE*MTB	-0.001**	0.000	0.000
	(0.018)	(0.216)	(0.911)
Industry Fixed Effects	Yes	Yes	Yes
Adjusted R^2	0.049	0.075	0.087
No. of Observations	41,174	41,174	23,290

Table 6B
Multivariate Tests for Accruals Management of Offshore Firms
Controlling for Self-Selection Bias

This table reports panel regression estimates with accruals management measures (abnormal accruals (DAC), the absolute value of abnormal accruals (|DAC|), and positive abnormal accruals (P_DAC)) as dependent variables controlling for self-selection bias using the Heckman (1979) two-stage methodology. The regressions with DAC and |DAC| as dependent variables use full sample including Type I and Type II offshore firms and non-offshore firms, while the regression with P_DAC as dependent variable uses a sub-sample of which every firm-year observation has positive DAC. The first-stage regressions are estimated using Probit regressions with the dependent variable OFFSHORE equal to 1 if a firm is an offshore firm, and 0 otherwise. Firm or country fixed effects are not included because OFCINDEX variable does not vary through time and across countries. To account for error term correlation within countries, standard errors are clustered by countries. The standard errors are robust to heteroschedasticity. The numbers in parentheses are probability levels at which the null hypothesis of zero coefficient can be rejected. *, **, *** indicate significance at the 10%, 5%, and 1% levels (based on a two-tailed test), respectively. (H1a) and (H2) refer to the first-a and second hypotheses described in the text, respectively. All of the variables are defined in Appendix A.

	Selection Equation	DAC (Heckman)	|DAC| (Heckman)	Selection Equation	P_DAC (Heckman)
OFFSHORE (H1a)		0.161***	0.144***		0.232***
		(0.000)	(0.000)		(0.000)
OFCINDEX	-0.391***	-0.000	-0.063***	-0.298***	-0.048***
	(0.000)	(0.988)	(0.000)	(0.000)	(0.000)
OFFSHORE*OFCINDEX (H2)		0.012***	0.037***		0.038***
		(0.010)	(0.000)		(0.000)
TAX	-13.035***	0.000	-0.003*	-12.505***	-0.002
	(0.000)	(0.791)	(0.055)	(0.000)	(0.223)
LOG_GDP		0.005***	-0.020***		-0.012***
		(0.004)	(0.000)		(0.000)
LEVERAGE	-2.151***			-2.072***	
	(0.000)			(0.000)	
LEVERAGE*TAX	5.809***			5.676***	
	(0.000)			(0.000)	
BIG5	0.713***	-0.012***	-0.005	0.686***	-0.004
	(0.000)	(0.002)	(0.153)	(0.000)	(0.263)
OFCINDEX*BIG5		-0.005	-0.018***		-0.016***
		(0.182)	(0.000)		(0.000)
USGAAP		-0.021***	0.018***		-0.010**
		(0.000)	(0.000)		(0.048)
IFRS		0.002	-0.003		-0.000***
		(0.614)	(0.414)		(0.975)
LITIGATE		0.002	-0.030***		-0.024***
		(0.675)	(0.000)		(0.000)
OFCINDEX*LITIGATE		-0.001	0.027***		0.023***
		(0.844)	(0.000)		(0.000)
INDE		0.001	0.000		0.001*
		(0.142)	(0.663)		(0.085)
SIZE	0.141***	-0.014***	-0.014***	0.122***	-0.013***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
MTB	0.046***	-0.001	0.009***	0.045***	0.007***
	(0.000)	(0.117)	(0.000)	(0.000)	(0.000)
NETI		0.317***	-0.105***		0.063***
		(0.000)	(0.000)		(0.000)
OFFSHORE*SIZE		-0.014***	-0.009***		-0.020***
		(0.000)	(0.000)		(0.000)
OFFSHORE*MTB		-0.001**	0.000		0.000
		(0.018)	(0.211)		(0.891)
IMR		-0.014**	0.024***		0.021***
		(0.041)	(0.000)		(0.003)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes
Adjusted or Pseudo R^2		0.053	0.093		0.106
No. of Observations	41,174	41,174	41,174	23,290	23,290

Table 7A
Multivariate Tests for Real Earnings Management of Offshore Firms

Using a full sample that composed of Type I and Type II offshore firms and non-offshore firms, this table reports panel regression estimates with real earnings management measures (abnormal operation cash flows (A_CFO), abnormal discretionary expenses (A_DISE), abnormal production costs (A_PROD) and the combined real earnings management (A_REM)) as dependent variables. Each regression includes industry fixed effects. Firm or country fixed effects are not included because OFCINDEX variable does not vary through time and across countries. To account for error term correlation within countries, standard errors are clustered by countries. The standard errors are robust to heteroschedasticity. In the full sample, some firm-year observations are missing for some control variables. The numbers in parentheses are probability levels at which the null hypothesis of zero coefficient can be rejected. *, **, *** indicate significance at the 10%, 5%, and 1% levels (based on a two-tailed test), respectively. (H1a) and (H2) refer to the first-a and the second hypotheses described in the text, respectively. All of the variables are defined in Appendix A.

	A_CFO	A_DISE	A_PROD	A_REM
OFFSHORE (H1a)	-0.345***	0.063***	0.342***	0.779***
	(0.000)	(0.001)	(0.000)	(0.000)
OFCINDEX	-0.039***	-0.094***	0.107***	0.246***
	(0.000)	(0.000)	(0.000)	(0.000)
OFFSHORE*OFCINDEX (H2)	0.013***	0.026***	-0.064***	-0.113***
	(0.000)	(0.000)	(0.000)	(0.000)
TAX	-0.001***	0.003	-0.002	-0.004
	(0.001)	(0.151)	(0.247)	(0.354)
LOG_GDP	-0.007***	-0.009***	0.010***	0.029***
	(0.001)	(0.000)	(0.000)	(0.000)
BIG5	-0.009**	-0.025***	0.010***	0.045***
	(0.021)	(0.004)	(0.003)	(0.000)
OFCINDEX*BIG5	0.021***	0.011***	0.017***	-0.017*
	(0.000)	(0.003)	(0.000)	(0.060)
CL	-0.070***	0.001	0.109***	0.193***
	(0.000)	(0.907)	(0.000)	(0.000)
INVREC	-0.223***	0.008	0.161***	0.400***
	(0.000)	(0.344)	(0.000)	(0.000)
DISTRESSED	0.033***	-0.003	-0.003	-0.040***
	(0.000)	(0.331)	(0.419)	(0.000)
INDE	-0.002***	0.001***	0.001**	0.000
	(0.000)	(0.000)	(0.017)	(0.983)
SIZE	-0.008***	0.002***	0.014***	0.020***
	(0.000)	(0.006)	(0.000)	(0.000)
MTB	0.001**	0.011***	-0.013***	-0.025***
	(0.021)	(0.000)	(0.000)	(0.000)
NETI	0.539***	-0.131***	-0.345***	-0.728***
	(0.000)	(0.000)	(0.000)	(0.000)
OFFSHORE*SIZE	0.029***	-0.002	-0.026***	-0.065***
	(0.000)	(0.143)	(0.000)	(0.000)
OFFSHORE*MTB	0.001***	0.001***	0.000*	0.000
	(0.000)	(0.000)	(0.071)	(0.876)
Industry Fixed Effects	Yes	Yes	Yes	Yes
Adjusted R^2	0.103	0.050	0.091	0.095
No. of Observations	40,170	40,170	40,170	40,170

Table 7B

Multivariate Tests for Real Earnings Management of Offshore Firms Controlling for Self-Selection Bias

Using a full sample that composed of Type I and Type II offshore firms and non-offshore firms, this table reports panel regression estimates with real earnings management measures (abnormal operation cash flows (A_CFO), abnormal discretionary expenses (A_DISE), abnormal production costs (A_PROD) and the combined real earnings management (A_REM)) as dependent variables controlling for self-selection bias using the Heckman (1979) two-stage methodology. The first-stage regressions are estimated using Probit regressions with the dependent variable OFFSHORE equal to 1 if a firm is an offshore firm, and 0 otherwise. Each regression includes industry fixed effects. Firm or country fixed effects are not included because OFCINDEX variable does not vary through time and across countries. To account for error term correlation within countries, standard errors are clustered by countries. The standard errors are robust to heteroschedasticity. In the full sample, some firm-year observations are missing for some control variables. The numbers in parentheses are probability levels at which the null hypothesis of zero coefficient can be rejected. *, **, *** indicate significance at the 10%, 5%, and 1% levels (based on a two-tailed test), respectively. (H1a) and (H2) refer to the first-a and the second hypotheses described in the text, respectively. All of the variables are defined in Appendix A.

	Selection Equation	A_CFO (Heckman)	A_DISE (Heckman)	A_PROD (Heckman)	A_REM (Heckman)
OFFSHORE (H1a)		-0.346***	0.029	0.384***	0.846***
		(0.000)	(0.200)	(0.000)	(0.000)
OFCINDEX	-0.418***	-0.039***	-0.096***	0.108***	0.249***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
OFFSHORE*OFCINDEX (H2)		0.013***	0.027***	-0.067***	-0.115***
		(0.009)	(0.000)	(0.000)	(0.000)
TAX	-13.153***	-0.001	0.002	-0.002	-0.003
	(0.000)	(0.807)	(0.265)	(0.438)	(0.506)
LOG_GDP		-0.008***	-0.011***	0.013***	0.033***
		(0.000)	(0.000)	(0.000)	(0.000)
LEVERAGE	-2.173***				
	(0.000)				
LEVERAGE*TAX	5.891***				
	(0.000)				
BIG5	0.718***	-0.009**	-0.021***	0.005	0.037***
	(0.000)	(0.039)	(0.000)	(0.176)	(0.000)
OFCINDEX*BIG5		0.021***	0.012***	0.016***	-0.018**
		(0.000)	(0.000)	(0.000)	(0.043)
CL		-0.070***	0.001	0.110***	0.194***
		(0.000)	(0.956)	(0.000)	(0.000)
INVREC		-0.223***	0.007	0.162***	0.402***
		(0.000)	(0.402)	(0.000)	(0.000)
DISTRESSED		0.033***	-0.003	-0.003	-0.040***
		(0.000)	(0.335)	(0.413)	(0.000)
INDE		-0.002***	0.001***	-0.001**	0.000
		(0.000)	(0.000)	(0.027)	(0.885)
SIZE	0.144***	-0.008***	0.003***	0.013***	0.018***
	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)
MTB	0.047***	0.001**	0.011***	-0.013***	-0.026***
	(0.000)	(0.026)	(0.000)	(0.000)	(0.000)
NETI		0.539***	-0.131***	-0.345***	-0.729***
		(0.000)	(0.000)	(0.000)	(0.000)
OFFSHORE*SIZE		0.029***	-0.001	-0.027***	-0.066***
		(0.000)	(0.320)	(0.000)	(0.000)
OFFSHORE*MTB		0.001***	-0.001***	0.000*	0.000
		(0.000)	(0.000)	(0.074)	(0.886)
IMR		0.000	0.017***	-0.022***	-0.034**
		(0.952)	(0.008)	(0.001)	(0.028)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes
Adjusted or Pseudo R^2		0.102	0.069	0.083	0.096
No. of Observations	40,170	40,170	40,170	40,170	40,170

Table 8
Multivariate Tests for Difference of Accruals and Real Earnings Management in Types of Offshore Firms

Using offshore sample including Type I and Type II offshore firms, this table reports panel regression estimates with accruals and real earnings management measures (the absolute value of abnormal accruals (|DAC|), the positive discretionary accruals (P_DAC), the abnormal operation cash flows (A_CFO), abnormal discretionary expenses (A_DISE), abnormal production costs (A_PROD) and the combined real earnings management (A_REM)) as dependent variables. Each regression includes industry fixed effects. Firm or country fixed effects are not included because OFCINDEX variable does not vary through time and across countries. To account for error term correlation within countries, standard errors are clustered by countries. The standard errors are robust to heteroschedasticity. In the sample, some firm-year observations are missing for some control variables. The numbers in parentheses are probability levels at which the null hypothesis of zero coefficient can be rejected. *, **, *** indicate significance at the 10%, 5%, and 1% levels (based on a two-tailed test), respectively. (H1b) refers to the first-b hypotheses described in the text. All of the variables are defined in Appendix A.

	|DAC|	P_DAC	A_CFO	A_DISE	A_PROD	A_REM
TYPE (H1b)	0.648***	0.439*	-0.075	-0.455***	-0.198***	0.157
	(0.001)	(0.069)	(0.229)	(0.000)	(0.000)	(0.149)
OFCINDEX	-0.122***	-0.085***	-0.043***	-0.038***	0.031***	0.120***
	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
TAX	0.329	-0.178	-0.307	-0.272*	0.379**	0.956**
	(0.623)	(0.837)	(0.167)	(0.070)	(0.020)	(0.014)
LOG_GDP	-0.078***	-0.052**	-0.008**	0.004	-0.007	-0.002
	(0.000)	(0.029)	(0.189)	(0.331)	(0.104)	(0.874)
BIG5	-0.054	0.031	0.001	-0.013	0.010	0.017
	(0.187)	(0.567)	(0.969)	(0.181)	(0.321)	(0.475)
OFCINDEX*BIG5	-0.010	-0.033	0.028***	0.003	0.004	-0.031**
	(0.678)	(0.314)	(0.001)	(0.643)	(0.558)	(0.037)
USGAAP	-0.081	-0.020				
	(0.341)	(0.850)				
IFRS	-0.203***	-0.194**				
	(0.002)	(0.019)				
LITIGATE	-0.111***	-0.157***				
	(0.000)	(0.000)				
OFCINDEX*LITIGATE	0.050**	0.108***				
	(0.032)	(0.001)				
CL			-0.243***	-0.006	0.005	0.252***
			(0.000)	(0.771)	(0.830)	(0.000)
INVREC			-0.299***	-0.081***	0.235***	0.695***
			(0.000)	(0.001)	(0.000)	(0.000)
DISTRESSED			0.103***	0.024***	0.033***	-0.054***
			(0.000)	(0.001)	(0.001)	(0.002)
INDE	0.004	0.009	0.003**	0.003***	0.002*	0.004*
	(0.434)	(0.138)	(0.016)	(0.001)	(0.068)	(0.083)
SIZE	-0.057***	-0.109***	0.023***	-0.008***	-0.014***	-0.043***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
MTB	0.024***	0.027***	0.001	0.009***	-0.012***	-0.021***
	(0.000)	(0.000)	(0.452)	(0.000)	(0.000)	(0.000)
NETI	0.006	0.346***	0.472***	-0.198***	-0.269***	-0.522***
	(0.939)	(0.009)	(0.000)	(0.000)	(0.000)	(0.000)
TYPE*SIZE	-0.063***	-0.051***	0.003	-0.036***	0.020***	-0.007
	(0.000)	(0.006)	(0.508)	(0.000)	(0.000)	(0.386)
TYPE*MTB	0.018***	0.003	0.003***	-0.002***	0.002***	-0.002*
	(0.000)	(0.410)	(0.000)	(0.000)	(0.002)	(0.064)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.046	0.055	0.104	0.056	0.101	0.109
No. of Observations	10,505	5,353	10,505	10,505	10,505	10,505

Table 9
Multivariate Tests for the Impact of Sarbanes-Oxley Act on Accruals and Real Earnings Management of Offshore Firms

Using the sub-sample of offshore firms that listed or cross-listed in the U.S stock markets, this table reports panel regression estimates with accruals earnings management and real earnings management measures (the absolute abnormal accruals (|DAC|), abnormal operation cash flows (A_CFO), abnormal discretionary expenses (A_DISE), abnormal production costs (A_PROD) and the combined real earnings management (A_REM)) as dependent variables. Each regression includes industry fixed effects. Firm or country fixed effects are not included because OFCINDEX variable does not vary through time and across countries. To account for error term correlation within countries, standard errors are clustered by countries. The standard errors are robust to heteroschedasticity. The numbers in parentheses are probability levels at which the null hypothesis of zero coefficient can be rejected. *, **, *** indicate significance at the 10%, 5%, and 1% levels (based on a two-tailed test), respectively. (H3) refers to the third hypothesis described in the text, respectively. All of the variables are defined in Appendix A.

	|DAC|	A_CFO	A_DISE	A_PROD	A_REM
SOX (H3)	-0.159***	-0.262***	0.035	0.209***	0.295***
	(0.000)	(0.001)	(0.409)	(0.000)	(0.005)
OFCINDEX	0.013	0.102**	-0.041	-0.007	-0.118
	(0.893)	(0.012)	(0.357)	(0.690)	(0.267)
TAX	0.794	1.087**	0.314	-0.005	-0.941
	(0.516)	(0.032)	(0.571)	(0.993)	(0.307)
LOG_GDP	0.002	-0.020	-0.013	-0.004	0.030
	(0.975)	(0.640)	(0.570)	(0.883)	(0.586)
BIG5	-0.036	-0.005	-0.016	-0.006	0.021
	(0.270)	(0.862)	(0.138)	(0.698)	(0.558)
OFCINDEX*BIG5	0.056	-0.054	0.011	0.010	0.052
	(0.410)	(0.352)	(0.708)	(0.760)	(0.469)
USGAAP	-0.011				
	(0.942)				
IFRS	-0.144				
	(0.639)				
LITIGATE	-0.096**				
	(0.015)				
OFCINDEX*LITIGATE	-0.049				
	(0.647)				
CL		-0.193***	0.043	-0.291***	-0.090
		(0.001)	(0.152)	(0.000)	(0.218)
INVREC		-0.307***	-0.074***	0.247***	0.891***
		(0.000)	(0.011)	(0.000)	(0.000)
DISTRESSED		0.123***	-0.040***	0.079***	0.054
		(0.000)	(0.001)	(0.000)	(0.672)
INDE	0.007	-0.017***	0.003	0.011***	0.026***
	(0.229)	(0.001)	(0.308)	(0.000)	(0.000)
SIZE	-0.068***	0.078***	-0.026***	-0.023***	-0.076***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
MTB	0.001	0.002	0.002**	-0.003***	-0.007***
	(0.671)	(0.262)	(0.025)	(0.001)	(0.001)
NETI	-0.357***	0.227***	-0.105***	-0.216***	-0.165***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
SOX*SIZE	0.047***	-0.015*	0.008*	-0.013***	-0.006
	(0.000)	(0.081)	(0.086)	(0.001)	(0.585)
SOX*MTB	0.000	-0.003*	-0.001	0.002*	0.007***
	(0.832)	(0.083)	(0.265)	(0.052)	(0.007)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.105	0.134	0.057	0.113	0.095
No. of Observations	6,172	6,266	6,266	6,266	6,266

Table 10
Multivariate Tests for Accruals and Real Earnings Management Using Performance-Matched Methodology

This table reports panel regression estimates with accruals and real earnings management measures (the absolute value of abnormal accruals (|DAC|), the positive discretionary accruals (P_DAC), the abnormal operation cash flows (A_CFO, abnormal discretionary expenses (A_DISE), abnormal production costs (A_PROD) and the combined real earnings management (A_REM) as dependent variables. I use the performance-matching methodology as in Kothari, Leone and Wasley (2005). The performance-matched sample is obtained by matching each firm-year observation with another from the same industry and year with the closest return on assets. Each regression includes industry fixed effects. Firm or country fixed effects are not included because OFCINDEX variable does not vary through time and across countries. To account for error term correlation within countries, standard errors are clustered by countries. The standard errors are robust to heteroschedasticity. The numbers in parentheses are probability levels at which the null hypothesis of zero coefficient can be rejected. *, **, *** indicate significance at the 10%, 5%, and 1% levels (based on a two-tailed test), respectively. (H1a) and (H2) refer to the first-a and the second hypotheses described in the text, respectively. All of the variables are defined in Appendix A.

	|DAC|	P_DAC	A_CFO	A_DISE	A_PROD	A_REM
OFFSHORE (H1a)	0.317***	0.411***	-0.401***	0.063**	0.228***	0.729***
	(0.000)	(0.000)	(0.000)	(0.017)	(0.000)	(0.000)
OFCINDEX	-0.077***	-0.043***	-0.040***	-0.073***	0.076***	0.194***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
OFFSHORE*OFCINDEX	0.049***	0.023***	0.022***	0.016***	-0.044***	-0.095****
	(0.000)	(0.002)	(0.002)	(0.005)	(0.000)	(0.002)
TAX	-0.010	-0.004	-0.001	-0.007	-0.002	0.005
	(0.300)	(0.805)	(0.961)	(0.719)	(0.636)	(0.808)
LOG_GDP	-0.085***	-0.051***	-0.014**	-0.038***	0.009***	0.061***
	(0.000)	(0.000)	(0.046)	(0.001)	(0.000)	(0.000)
BIG5	-0.034*	-0.004	-0.023	-0.095***	0.004	0.123***
	(0.069)	(0.878)	(0.245)	(0.004)	(0.528)	(0.002)
OFCINDEX*BIG5	-0.045**	-0.034	0.001	0.020	0.021***	0.000
	(0.032)	(0.211)	(0.964)	(0.576)	(0.004)	(0.998)
USGAAP	0.018	0.005				
	(0.510)	(0.892)				
IFRS	-0.090***	-0.082***				
	(0.000)	(0.002)				
LITIGATE	-0.072**	-0.080**				
	(0.017)	(0.050)				
OFCINDEX*LITIGATE	0.056***	0.068**				
	(0.009)	(0.015)				
CL			-0.045	0.098**	0.005	-0.047
			(0.149)	(0.051)	(0.613)	(0.432)
INVREC			-0.290***	-0.053	0.155***	0.498***
			(0.000)	(0.492)	(0.000)	(0.000)
DISTRESSED			0.044**	0.024	-0.022***	-0.090**
			(0.025)	(0.450)	(0.001)	(0.019)
INDE	-0.002	0.000	0.001	-0.000	0.000	-0.001
	(0.462)	(0.865)	(0.566)	(0.991)	(0.938)	(0.786)
SIZE	-0.026***	-0.029***	-0.018***	0.063***	0.003*	-0.042***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.074)	(0.000)
MTB	0.000	0.000	0.000	0.000	-0.000	-0.000
	(0.223)	(0.362)	(0.591)	(0.942)	(0.437)	(0.642)
NETI	-0.054*	0.112**	0.205***	0.165***	-0.024**	-0.394***
	(0.067)	(0.015)	(0.000)	(0.001)	(0.021)	(0.000)
OFFSHORE*SIZE	-0.039***	-0.075***	0.071***	-0.031**	-0.025***	-0.065***
	(0.000)	(0.000)	(0.000)	(0.026)	(0.000)	(0.001)
OFFSHORE*MTB	0.007***	0.003	0.007***	-0.001	-0.000	-0.006**
	(0.000)	(0.271)	(0.000)	(0.656)	(0.503)	(0.029)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.057	0.050	0.014	0.014	0.020	0.020
No. of Observations	40,799	23,106	40,052	40,052	40,052	40,052

Table 11
Multivariate Tests for Accruals and Real Earnings Management Using Country-Weighted Least Squares Model

Using a full sample that composed of Type I and Type II offshore firms and non-offshore firms, this table reports panel regression estimates with accruals and real earnings management measures (the absolute value of abnormal accruals (|DAC|), the abnormal operation cash flows (A_CFO), abnormal discretionary expenses (A_DISE), abnormal production costs (A_PROD) and the combined real earnings management (A_REM)) as dependent variables. Equal weight is assigned to each country. Each regression includes industry fixed effects. Firm or country fixed effects are not included because OFCINDEX variable does not vary through time and across countries. To account for error term correlation within countries, standard errors are clustered by countries. The standard errors are robust to heteroschedasticity. In the full sample, some firm-year observations are missing for some control variables. The numbers in parentheses are probability levels at which the null hypothesis of zero coefficient can be rejected. *, **, *** indicate significance at the 10%, 5%, and 1% levels (based on a two-tailed test), respectively. (H1a) and (H2) refers to the first-a and the second hypotheses described in the text, respectively. All of the variables are defined in Appendix A.

	|DAC|	A_CFO	A_DISE	A_PROD	A_REM
OFFSHORE (H1a)	0.171***	-0.343***	0.064***	0.341***	0.776***
	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)
OFCINDEX	-0.060***	-0.038***	-0.094***	0.106***	0.246***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
OFFSHORE*OFCINDEX (H2)	0.037***	0.012**	0.026***	-0.064****	-0.112****
	(0.000)	(0.012)	(0.000)	(0.000)	(0.000)
TAX	-0.003*	-0.001	0.003	-0.002	-0.003
	(0.057)	(0.590)	(0.178)	(0.378)	(0.532)
LOG_GDP	-0.016***	-0.007***	-0.009***	0.010***	0.029***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
BIG5	-0.011***	-0.009**	-0.025***	0.010***	0.045***
	(0.001)	(0.024)	(0.000)	(0.003)	(0.000)
OFCINDEX*BIG5	-0.025***	0.021***	0.011***	0.017***	-0.016*
	(0.000)	(0.000)	(0.003)	(0.000)	(0.071)
USGAAP	0.010**				
	(0.053)				
IFRS	-0.002				
	(0.570)				
LITIGATE	-0.028***				
	(0.000)				
OFCINDEX*LITIGATE	0.026***				
	(0.000)				
CL		-0.070***	0.001	0.109***	0.192***
		(0.000)	(0.902)	(0.000)	(0.000)
INVREC		-0.222***	0.008	0.160***	0.399***
		(0.000)	(0.343)	(0.000)	(0.000)
DISTRESSED		0.033***	-0.003	-0.003	-0.040***
		(0.000)	(0.328)	(0.430)	(0.000)
INDE	0.001	-0.002***	0.001***	-0.001**	-0.000
	(0.189)	(0.000)	(0.000)	(0.014)	(0.955)
SIZE	-0.018***	-0.008***	0.002***	0.014***	0.020***
	(0.000)	(0.000)	(0.007)	(0.000)	(0.000)
MTB	0.000***	0.001**	0.011***	-0.013***	-0.025***
	(0.000)	(0.024)	(0.000)	(0.000)	(0.000)
NETI	-0.023***	0.539***	-0.131***	-0.345***	-0.728***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
OFFSHORE*SIZE	-0.008***	0.029***	-0.002	-0.026***	-0.065***
	(0.000)	(0.000)	(0.140)	(0.000)	(0.001)
OFFSHORE*MTB	0.001***	0.001***	-0.001***	0.000*	0.000
	(0.000)	(0.000)	(0.000)	(0.071)	(0.875)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.064	0.103	0.055	0.099	0.095
No. of Observations	41,174	40,170	40,170	40,170	40,170

Table 12
Multivariate Tests for Accruals and Real Earnings Management
Controlling for Firm Institutional Ownership

Using a full sample that composed of Type I and Type II offshore firms and non-offshore firms, this table reports panel regression estimates with accruals and real earnings management measures (the absolute value of abnormal accruals (|DAC|), the positive abnormal accruals (P_DAC), the abnormal operation cash flows (A_CFO), abnormal discretionary expenses (A_DISE), abnormal production costs (A_PROD) and the combined real earnings management (A_REM)) as dependent variables. Each regression includes industry fixed effects. Firm or country fixed effects are not included because OFCINDEX variable does not vary through time and across countries. To account for error term correlation within countries, standard errors are clustered by countries. The standard errors are robust to heteroschedasticity. In the full sample, some firm-year observations are missing for OWNERSHIP and other control variable. The numbers in parentheses are probability levels at which the null hypothesis of zero coefficient can be rejected. *, **, *** indicate significance at the 10%, 5%, and 1% levels (based on a two-tailed test), respectively. (H1a) and (H2) refer to the first-a and the second hypotheses described in the text, respectively. All of the variables are defined in Appendix A.

	|DAC|	P_DAC	A_CFO	A_DISE	A_PROD	A_REM
OFFSHORE (H1a)	0.155***	0.836***	-0.165***	0.101***	0.394***	0.623***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
OFCINDEX	-0.029***	-0.232***	-0.022**	-0.097***	0.104***	0.226***
	(0.001)	(0.000)	(0.011)	(0.000)	(0.000)	(0.000)
OFFSHORE*OFCINDEX (H2)	0.005	0.044	0.025***	-0.022***	-0.017**	-0.027
	(0.515)	(0.251)	(0.004)	(0.003)	(0.027)	(0.113)
TAX	0.155**	-0.732**	0.088	0.127**	-0.407***	-0.637***
	(0.012)	(0.014)	(0.202)	(0.028)	(0.000)	(0.000)
LOG_GDP	-0.023***	-0.077***	-0.008**	-0.018***	0.027***	0.056***
	(0.000)	(0.000)	(0.020)	(0.000)	(0.000)	(0.000)
OWNERSHIP	0.001***	0.002***	-0.000	0.001***	-0.001***	-0.001**
	(0.000)	(0.003)	(0.163)	(0.000)	(0.001)	(0.021)
BIG5	0.001	0.038	-0.010	-0.025***	0.011**	0.045***
	(0.069)	(0.147)	(0.113)	(0.004)	(0.034)	(0.000)
OFCINDEX*BIG5	-0.021***	-0.058*	0.002	0.034***	-0.017**	-0.055***
	(0.002)	(0.081)	(0.766)	(0.000)	(0.012)	(0.001)
USGAAP	0.012	0.079**				
	(0.125)	(0.047)				
IFRS	0.001	-0.207***				
	(0.888)	(0.000)				
LITIGATE	-0.026***	-0.057				
	(0.001)	(0.157)				
OFCINDEX*LITIGATE	0.031***	0.054*				
	(0.000)	(0.097)				
CL			-0.061***	-0.012	0.059***	0.131***
			(0.000)	(0.389)	(0.000)	(0.000)
INVREC			-0.235***	-0.011	0.211***	0.482***
			(0.000)	(0.394)	(0.000)	(0.000)
DISTRESSED			0.041***	-0.016***	0.016***	-0.012
			(0.000)	(0.000)	(0.002)	(0.286)
INDE	0.002**	0.005	-0.002***	0.002***	0.000	0.001
	(0.022)	(0.140)	(0.000)	(0.001)	(0.997)	(0.557)
SIZE	-0.016***	-0.034***	-0.001	-0.004***	0.018***	0.022***
	(0.000)	(0.000)	(0.681)	(0.002)	(0.000)	(0.000)
MTB	0.000*	0.002**	0.001	0.012***	-0.013***	-0.025***
	(0.048)	(0.044)	(0.204)	(0.000)	(0.000)	(0.000)
NETI	-0.002	0.487***	0.565***	-0.165***	-0.340***	-0.700***
	(0.668)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
OFFSHORE*SIZE	-0.006***	-0.061***	0.015***	-0.003	-0.033***	-0.059***
	(0.004)	(0.000)	(0.000)	(0.194)	(0.000)	(0.000)
OFFSHORE*MTB	0.000	-0.000	0.001***	-0.001***	0.001**	0.000
	(0.101)	(0.869)	(0.000)	(0.000)	(0.047)	(0.601)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.060	0.085	0.113	0.071	0.118	0.108
No. of Observations	18,044	9,629	17,805	17,805	17,805	17,805

Table 13
Correlation Coefficients of Firm Value

This table reports pairwise correlation coefficients between the main variables concerning offshore firm value based on the entire sample of offshore (Type I and Type II offshore samples combined) and non-offshore companies. *, **, *** indicate significance at the 10%, 5%, and 1% levels respectively, using two-tailed tests. All of the variables are defined in Appendix A.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Q	1.000	0.980***	0.084***	0.122***	0.002	-0.058***	0.094***	0.174***	-0.098***	-0.035***	0.081***	0.038***	-0.152***	0.193***	0.081***	-0.161***	-0.070***
2. IAQ		1.000	0.081***	0.094***	-0.001	-0.039***	0.080***	0.142***	-0.085***	-0.013***	0.082***	0.069***	-0.124***	0.194***	0.087***	-0.161***	-0.071***
3. OFFSHORE			1.000	-0.077***	-0.052***	0.197***	-0.164***	0.286***	0.096***	0.159***	-0.012***	0.038***	-0.032***	0.000	0.100***	-0.046***	0.132***
4. LOG_GDP				1.000	0.072***	-0.776***	0.436***	0.679***	-0.525***	0.184***	0.039***	-0.082***	0.043***	0.018***	-0.108**	-0.065***	-0.403***
5. TAX					1.000	-0.103***	-0.025***	0.044***	-0.027***	0.035***	0.003	-0.003	0.019***	0.001	-0.016***	-0.014***	-0.041***
6. OFCINDEX						1.000	-0.155***	-0.403***	0.240***	-0.190***	-0.005	0.068***	-0.078***	-0.015***	0.067***	0.110***	0.374***
7. INDE							1.000	0.607***	-0.351***	0.028***	0.006	0.052***	0.012**	0.017***	0.043***	0.015***	0.085***
8. USGAAP								1.000	-0.483***	0.121***	0.025***	-0.115***	-0.061***	0.023***	-0.051***	-0.063***	-0.223***
9. IFRS									1.000	-0.084***	-0.041***	0.028***	0.058***	-0.011**	0.090***	-0.056***	0.199***
10. SIZE										1.000	0.188***	0.342***	0.295***	-0.033***	-0.148***	-0.060***	-0.105***
11. GROWTH											1.000	0.224***	0.020***	0.007	-0.012**	-0.106***	-0.030***
12. PROFIT												1.000	-0.081***	-0.040***	-0.104***	-0.145***	-0.022***
13. LEVERAGE													1.000	0.072***	0.019***	0.039***	-0.049***
14. MTB														1.000	0.051***	-0.020***	-0.009*
15. |DAC|															1.000	-0.032***	0.056***
16. A_REM																1.000	0.032***
17. CROSS																	1.000

Table 14

Market Reaction to a Firm Migrating or Setting up an Affiliate in an OFC

This table reports cumulative daily abnormal stock returns (CAR), estimated using calendar-time regressions based on Morgan Stanley Capital International (MSCI) value-weighted world price index. The data of 45 firms that announced migrating to or setting up affiliates in OFCs between 2003 and 2007 is from the Datasream database. The estimation period for estimating the market model begins from 250 trading days prior to an announcement. Ten event windows are chosen to test the fourth hypothesis H4 of this research. t-Value in this table is cross-sectional t-statistic, presenting whether the average cumulative abnormal stock returns (CAR) is significantly different from zero. The numbers in parentheses are probability levels at which the null hypothesis of zero CAR can be rejected. *, **, *** indicate significance at the 10%, 5%, and 1% levels (based on a two-tailed test), respectively. The column 'Positive: Negative' presents firm numbers with positive or negative CAR.

Event Window (days)	N	Positive: Negative	Mean Cumulative Abnormal Returns (CAR)	t Value
(-10, 1)	45	26 : 19	-1.42%	-0.24 (0.809)
(-5, 1)	45	24 : 21	3.54%	0.91 (0.369)
(-2, 2)	45	22 : 23	1.93%	0.56 (0.578)
(-1, 1)	45	21 : 24	4.35%	1.34 (0.186)
(-1, 0)	45	19 : 26	0.82%	0.43 (0.672)
(-1, 2)	45	21 : 24	2.70%	0.74 (0.462)
(-1, 3)	45	23 : 22	3.28%	0.90 (0.371)
(-1, 5)	45	25 : 20	1.43%	0.37 (0.716)
(1, 1)	45	20 : 25	3.53%	0.95 (0.346)
(0, 3)	45	27 : 18	3.74%	1.08 (0.286)

Table 15
Multivariate Tests for Offshore Firm Value

This table reports panel regression estimates with Tobin's Q and Industry Adjusted Tobin's Q (IAQ) as dependent variables. Tobin's Q regressions include industry and year fixed effects, while IAQ regressions are controlled for year fixed effects. Firm or country fixed effects are not included because OFCINDEX variable does not vary through time and across countries. To account for error term correlation within countries, standard errors are clustered by countries. The standard errors are robust to heteroschedasticity. Columns (1) - (4) use full sample including Type I and Type II offshore firms and non-offshore firms. Columns (5) and (6) use Type I sub-sample including Type I and non-offshore firms, while the Type II sub-sample of Columns (7) and (8) include Type II offshore firms and non-offshore firms. The numbers in parentheses are probability levels at which the null hypothesis of zero coefficient can be rejected. *, **, *** indicate significance at the 10%, 5%, and 1% levels (based on a two-tailed test), respectively. (H5a) and (H6) refer to the fifth-a and sixth hypotheses described in the text, respectively. All of the variables are defined in Appendix A.

	Full Sample				Type I Sample		Type II Sample	
	Tobin's Q (1)	Tobin's Q (2)	IAQ (3)	IAQ (4)	Tobin's Q (5)	IAQ (6)	Tobin's Q (7)	IAQ (8)
OFFSHORE (H5a)	0.175***	0.230***	0.132***	0.170***	-0.213***	-0.193***	0.315***	0.241***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
OFCINDEX	-0.001	0.098***	0.068***	0.142***	0.062***	0.113***	0.086***	0.147***
	(0.935)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)
OFFSHORE* OFCINDEX (H6)		-0.165***		-0.125***				
		(0.000)		(0.000)				
TAX	0.002	0.002	-0.003	-0.003	0.001	-0.004	0.001	-0.002
	(0.832)	(0.814)	(0.655)	(0.678)	(0.944)	(0.577)	(0.855)	(0.759)
LOG_GDP	0.037***	0.030***	0.029***	0.027***	0.013**	0.009	0.038***	0.053***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.038)	(0.142)	(0.000)	(0.000)
INDE			0.002	0.003**		0.001		0.002
			(0.164)	(0.040)		(0.391)		(0.246)
USGAAP	0.272***	0.317***	0.209***	0.248***	0.293***	0.229***	0.251***	0.124***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
IFRS	-0.037**	0.008	-0.091***	-0.058***	-0.003	-0.063***	0.027	-0.043**
	(0.019)	(0.632)	(0.000)	(0.000)	(0.869)	(0.000)	(0.119)	(0.011)
SIZE	-0.039***	-0.039***	-0.021***	-0.022***	-0.063***	-0.040***	-0.043***	-0.026***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
LEVERAGE	-0.682***	-0.690***	-0.531***	-0.534***	-0.546***	-0.434***	-0.766***	-0.607***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
PROFIT	0.004***	0.003***	0.004***	0.004***	0.002***	0.002***	0.004***	0.004***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
GROWTH	0.237***	0.226***	0.168***	0.167***	0.199***	0.141***	0.275***	0.204***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
|DAC|			0.399***	0.404***		0.417***		0.380***
			(0.000)	(0.000)		(0.000)		(0.000)
A_REM			-0.248***	-0.246***		-0.205***		-0.277***
			(0.000)	(0.000)		(0.000)		(0.000)
CROSS			-0.214***	-0.167***		-0.182***		-0.320***
			(0.000)	(0.000)		(0.000)		(0.000)
Industry Fixed Effects	Yes	Yes	No	No	Yes	No	Yes	No
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.063	0.065	0.077	0.078	0.051	0.061	0.072	0.088
No. of Observations	41,171	41,171	41,171	41,171	34,199	34,199	37,592	37,592

Table 16

Multivariate Tests for Offshore Firm Value Controlling for Self-Selection Bias

This table reports panel regression estimates with Tobin's Q and Industry Adjusted Tobin's Q (IAQ) as dependent variables controlling for self-selection bias using the Heckman (1979) two-stage methodology. The first-stage regressions are estimated using Probit regressions with the dependent variable OFFSHORE equal to 1 if a firm is an offshore firm, and 0 otherwise. Firm or country fixed effects are not included because OFCINDEX variable does not vary through time and across countries. To account for error term correlation within countries, standard errors are clustered by countries. The standard errors are robust to heteroschedasticity. Columns (1) - (5) use full sample including Type I and Type II offshore firms and non-offshore firms. Columns (6) - (8) use Type I sub-sample including Type I and non-offshore firms, while the Type II sub-sample of Columns (9) - (11) include Type II offshore firms and non-offshore firms. The numbers in parentheses are probability levels at which the null hypothesis of zero coefficient can be rejected. *, **, *** indicate significance at the 10%, 5%, and 1% levels (based on a two-tailed test), respectively. (H5a) and (H6) refer to the fifth-a and sixth hypotheses described in the text, respectively. All of the variables are defined in Appendix A.

	Full Sample					Type I Sample			Type II Sample		
	Selection Equation (1)	Tobin's Q (Heckman) (2)	Tobin's Q (Heckman) (3)	IAQ (Heckman) (4)	IAQ (Heckman) (5)	Selection Equation (6)	Tobin's Q (Heckman) (7)	IAQ (Heckman) (8)	Selection Equation (9)	Tobin's Q (Heckman) (10)	IAQ (Heckman) (11)
OFFSHORE (H5a)		0.405***	0.473***	0.243***	0.294***		-0.106***	-0.059**		0.481***	0.331***
		(0.000)	(0.000)	(0.000)	(0.000)		(0.000)	(0.049)		(0.000)	(0.000)
OFCINDEX	-0.401***	0.052***	0.146***	0.095***	0.174***	0.569***			-8.426***		
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)			(0.000)		
OFFSHORE*OFCINDEX			-0.155***		-0.122***						
			(0.000)		(0.000)						
TAX	-12.566***					-31.145***			-16.007***		
	(0.000)					(0.000)			(0.000)		
LOG_GDP		0.047***	0.043***	0.032***	0.033***		-0.018***	-0.031***		-0.019***	-0.009
		(0.000)	(0.000)	(0.000)	(0.000)		(0.000)	(0.000)		(0.000)	(0.157)
LEVERAGE	-1.942***					0.501			-5.645***		
	(0.000)					(0.406)			(0.000)		
LEVERAGE*TAX	4. 937***					-1. 492			14.649***		
	(0.000)					(0.584)			(0.000)		
BIG5	0.708***					0.469***			0.621***		
	(0.000)					(0.000)			(0.000)		
SIZE	0.143***					-0.000			0.184***		
	(0.000)					(0.983)			(0.000)		
MTB	0.001**					-0.002			0.000*		
	(0.015)					(0.246)			(0.074)		

Table 16 (Continued)

	Selection Equation (1)	Tobin's Q (Heckman) (2)	Tobin's Q (Heckman) (3)	IAQ (Heckman) (4)	IAQ (Heckman) (5)	Selection Equation (6)	Tobin's Q (Heckman) (7)	IAQ (Heckman) (8)	Selection Equation (9)	Tobin's Q (Heckman) (10)	IAQ (Heckman) (11)
USGAAP		0.330***	0.372***	0.241***	0.293***		0.355***	0.270***		0.312***	0.182***
		(0.000)	(0.000)	(0.000)	(0.000)		(0.000)	(0.000)		(0.000)	(0.000)
IFRS		-0.059***	-0.018	-0.110***	-0.077***		-0.106***	-0.171***		-0.175***	-0.158***
		(0.000)	(0.279)	(0.000)	(0.000)		(0.000)	(0.000)		(0.000)	(0.000)
GROWTH		0.192***	0.190***	0.139***	0.136***		0.125***	0.111***		0.198***	0.180***
		(0.000)	(0.000)	(0.000)	(0.000)		(0.000)	(0.000)		(0.000)	(0.000)
PROFIT		0.002***	0.002***	0.004***	0.004***		-0.000	0.001***		0.001***	0.004***
		(0.000)	(0.000)	(0.000)	(0.000)		(0.369)	(0.000)		(0.000)	(0.000)
INDE					0.004**		0.002	-0.002		0.000	-0.002
					(0.015)		(0.311)	(0.278)		(0.993)	(0.206)
|DAC|				0.422***	0.429***		0.429***	0.436***		0.364***	0.390***
				(0.000)	(0.000)		(0.000)	(0.000)		(0.000)	(0.000)
A_REM				-0.257***	-0.256***		-0.226***	-0.215***		-0.286***	-0.282***
				(0.000)	(0.000)		(0.000)	(0.000)		(0.000)	(0.000)
CROSS				-0.194***	-0.146***			-0.171***			-0.274***
				(0.000)	(0.000)			(0.000)			(0.000)
IMR		-0.217***	-0.229***	-0.111***	-0.122***		-0.086***	-0.094***		-0.227***	-0.112***
		(0.000)	(0.000)	(0.000)	(0.000)		(0.003)	(0.001)		(0.000)	(0.000)
Industry Fixed Effects	Yes	Yes	Yes	No	No	Yes	Yes	No	Yes	Yes	No
Adjusted or Pseudo R^2		0.101	0.103	0.094	0.096		0.081	0.085		0.083	0.086
No. of Observations	41,171	41,171	41,171	41,171	41,171	34,199	34,199	34,199	37,592	37,592	37,592

Table 17

Multivariate Tests for Offshore Firm Value after 2002

Adding interaction between dummy variable OFFSHORE and YEAR2002 which is equal 1 if a firm-year observation is in a year after 2002 and 0 otherwise, this table reports panel regression estimates with Tobin's Q and Industry Adjusted Tobin's Q (IAQ) as dependent variables to test the change of offshore firm value after 2002. Tobin's Q regressions include industry and year fixed effects, while IAQ regressions are controlled for year fixed effects. Firm or country fixed effects are not included because OFCINDEX variable does not vary through time and across countries. To account for error term correlation within countries, standard errors are clustered by countries. The standard errors are robust to heteroschedasticity. All regressions use full sample including Type I and Type II offshore firms and non-offshore firms. The numbers in parentheses are probability levels at which the null hypothesis of zero coefficient can be rejected. *, **, *** indicate significance at the 10%, 5%, and 1% levels (based on a two-tailed test), respectively. (H5b) refers to the fifth-b hypotheses described in the text, respectively. All of the variables are defined in Appendix A.

	Tobin's Q (1)	Tobin's Q (2)	IAQ (3)	IAQ (4)
OFFSHORE	0.351***	0.261***	0.335***	0.259***
	(0.000)	(0.000)	(0.000)	(0.000)
OFCINDEX	0.108***	0.101***	0.117***	0.094***
	(0.000)	(0.000)	(0.000)	(0.000)
YEAR2002*OFFSHORE (H5b)	-0.060**	-0.055**	-0.066***	-0.063***
	(0.012)	(0.020)	(0.005)	(0.007)
OFFSHORE*OFCINDEX	-0.107***	-0.135***	-0.119***	-0.119***
	(0.000)	(0.000)	(0.000)	(0.000)
TAX	0.006	0.002	0.001	-0.003
	(0.459)	(0.780)	(0.945)	(0.727)
LOG_GDP	0.095***	0.031***	0.077***	0.018***
	(0.000)	(0.000)	(0.000)	(0.004)
INDE		0.007***		0.004**
		(0.000)		(0.019)
USGAAP		0.340***		0.271***
		(0.000)		(0.000)
IFRS		0.001		-0.020
		(0.943)		(0.231)
SIZE	-0.039***	-0.041***	-0.032***	0.033***
	(0.000)	(0.000)	(0.000)	(0.001)
LEVERAGE	-0.741***	-0.685***	-0.571***	-0.524***
	(0.000)	(0.000)	(0.000)	(0.000)
PROFIT	0.003***	0.003***	0.005***	0.005***
	(0.000)	(0.000)	(0.000)	(0.000)
GROWTH	0.244***	0.237***	0.217***	0.212***
	(0.000)	(0.000)	(0.000)	(0.000)
CROSS		-0.120***		-0.166***
		(0.000)		(0.000)
Industry Fixed Effects	Yes	Yes	No	No
Year Fixed Effects	No	Yes	No	Yes
Adjusted R^2	0.059	0.067	0.046	0.052
No. of Observations	41,171	41,171	41,171	41,171

Table 18

Multivariate Tests for the Difference of Offshore Firm Value by Type

Using offshore sample including Type I and Type II offshore firms, this table reports panel regression estimates with Tobin's Q and Industry Adjusted Tobin's Q (IAQ) as dependent variables. Tobin's Q regressions include industry and year fixed effects, while IAQ regressions are controlled for year fixed effects. Firm or country fixed effects are not included because OFCINDEX variable does not vary through time and across countries. To account for error term correlation within countries, standard errors are clustered by countries. The standard errors are robust to heteroschedasticity. The numbers in parentheses are probability levels at which the null hypothesis of zero coefficient can be rejected. *, **, *** indicate significance at the 10%, 5%, and 1% levels (based on a two-tailed test), respectively. (H5c) refers to the fifth-c hypothesis described in the text. All of the variables are defined in Appendix A.

	Tobin's Q (1)	Tobin's Q (2)	IAQ (3)	IAQ (4)
TYPE (H5c)	-0.811***	-0.643***	-0.769***	-0.619***
	(0.000)	(0.000)	(0.000)	(0.000)
OFCINDEX	-0.009	0.039	0.003	0.049
	(0.761)	(0.201)	(0.931)	(0.102)
TAX	-1.818***	-1.649**	-1.634**	-1.402**
	(0.006)	(0.013)	(0.013)	(0.032)
LOG_GDP	-0.008	0.056	-0.011	0.039
	(0.676)	(0.133)	(0.531)	(0.281)
INDE		0.018***		0.018***
		(0.000)		(0.000)
USGAAP	0.405***	0.502***	0.344***	0.463***
	(0.000)	(0.000)	(0.000)	(0.000)
IFRS	0.130**	0.193***	0.142**	0.208***
	(0.047)	(0.003)	(0.027)	(0.001)
SIZE	0.016**	0.016**	0.021**	0.022***
	(0.027)	(0.025)	(0.003)	(0.002)
LEVERAGE	-0.924***	-0.911***	-0.703***	-0.692***
	(0.000)	(0.000)	(0.000)	(0.000)
PROFIT	0.010***	0.010***	0.012***	0.012***
	(0.000)	(0.000)	(0.000)	(0.000)
GROWTH	0.183***	0.124***	0.162***	0.100***
	(0.000)	(0.000)	(0.000)	(0.000)
|DAC|		0.392***		0.437***
		(0.000)		(0.000)
A_REM		-0.223***		-0.232***
		(0.000)		(0.000)
CROSS		0.234*		0.182
		(0.057)		(0.130)
Industry Fixed Effects	Yes	Yes	No	No
Year Fixed Effects	No	Yes	No	Yes
Adjusted R^2	0.102	0.128	0.089	0.120
No. of Observations	10,551	10,551	10,551	10,551

Table 19

Multivariate Tests for SOX Impact on Offshore Firm Value

Using the sub-sample of offshore firms that listed or cross-listed in the U.S stock markets, this table reports panel regression estimates with Tobin's Q and Industry Adjusted Tobin's Q (IAQ) as dependent variables. Tobin's Q regressions include industry and year fixed effects, while IAQ regressions are controlled for year fixed effects. Firm or country fixed effects are not included because OFCINDEX variable does not vary through time and across countries. To account for error term correlation within countries, standard errors are clustered by countries. The standard errors are robust to heteroschedasticity. The numbers in parentheses are probability levels at which the null hypothesis of zero coefficient can be rejected. *, **, *** indicate significance at the 10%, 5%, and 1% levels (based on a two-tailed test), respectively. (H7) refers to the seventh hypothesis described in the text, respectively. All of the variables are defined in Appendix A.

	Tobin's Q (1)	Tobin's Q (2)	Tobin's Q (3)	IAQ (4)	IAQ (5)	IAQ (6)
SOX (H7)	-0.227***	-0.235***	-0.214***	-0.236***	-0.244***	-0.212***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
OFCINDEX	-0.014	-0.136	-0.126	0.061	-0.066	-0.070
	(0.917)	(0.356)	(0.405)	(0.638)	(0.644)	(0.632)
SOX*OFCINDEX		0.176**	0.173**		0.185**	0.178**
		(0.043)	(0.044)		(0.030)	(0.033)
TAX	-1.392	-1.376	-1.708	-1.800	-1.783	-2.265
	(0.479)	(0.484)	(0.401)	(0.348)	(0.352)	(0.251)
LOG_GDP	0.098	0.096	0.130	0.126	0.124	0.148
	(0.221)	(0.231)	(0.265)	(0.106)	(0.112)	(0.193)
INDE			0.039***			0.036***
			(0.000)			(0.000)
USGAAP	-0.040	-0.010	0.008	-0.055	-0.023	-0.031
	(0.858)	(0.966)	(0.979)	(0.802)	(0.916)	(0.912)
IFRS	-0.231	-0.149	0.009	-0.341	-0.256	-0.116
	(0.635)	(0.760)	(0.986)	(0.472)	(0.591)	(0.807)
SIZE	0.043***	0.043***	0.026***	0.050***	0.050***	0.033***
	(0.000)	(0.000)	(0.005)	(0.000)	(0.000)	(0.000)
LEVERAGE	-1.434***	-1.434***	-1.384***	-1.142***	-1.142***	-1.096***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
PROFIT	0.017***	0.017***	0.016***	0.019***	0.019***	0.019***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
GROWTH	0.595***	0.594***	0.495***	0.563***	0.562***	0.451***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
|DAC|			0.251***			0.351***
			(0.000)			(0.000)
A_REM			-0.358***			-0.374***
			(0.000)			(0.000)
CROSS			0.051			-0.122
			(0.922)			(0.808)
Industry Fixed Effects	Yes	Yes	Yes	No	No	No
Year Fixed Effects	No	No	Yes	No	No	Yes
Adjusted R^2	0.119	0.119	0.151	0.118	0.119	0.157
No. of Observations	6,171	6,171	6,171	6,171	6,171	6,171

Table 20

Multivariate Tests for Offshore Firm Value Using Country-Weighted Least Squares Model

This table reports panel regression estimates with Tobin's Q and Industry Adjusted Tobin's Q (IAQ) as dependent variables using country-weighted least squares. Equal weight is assigned to each country. Tobin's Q regressions include industry and year fixed effects, while IAQ regressions are controlled for year fixed effects. Firm or country fixed effects are not included because OFCINDEX variable does not vary through time and across countries. To account for error term correlation within countries, standard errors are clustered by countries. The standard errors are robust to heteroschedasticity. Columns (1) - (4) use full sample including Type I and Type II offshore firms and non-offshore firms. Columns (5) and (6) use Type I sub-sample including Type I and non-offshore firms, while the Type II sub-sample of Columns (7) and (8) include Type II offshore firms and non-offshore firms. The numbers in parentheses are probability levels at which the null hypothesis of zero coefficient can be rejected. *, **, *** indicate significance at the 10%, 5%, and 1% levels (based on a two-tailed test), respectively. (H5a) and (H6) refer to the fifth-a and sixth hypotheses described in the text, respectively. All of the variables are defined in Appendix A.

	Full Sample				Type I Sample		Type II Sample	
	Tobin's Q (1)	Tobin's Q (2)	IAQ (3)	IAQ (4)	Tobin's Q (5)	IAQ (6)	Tobin's Q (7)	IAQ (8)
OFFSHORE (H5a)	0.175***	0.231***	0.132***	0.171***	-0.213***	-0.193***	0.316***	0.242***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
OFCINDEX	-0.002	0.098***	0.067***	0.142***	0.062***	0.113***	0.093***	0.156***
	(0.903)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)
OFFSHORE* OFCINDEX (H6)		-0.167***		-0.126***				
		(0.000)		(0.000)				
TAX	0.000	-0.000	-0.004	-0.004	-0.001	-0.005	-0.016*	-0.018**
	(0.982)	(0.973)	(0.611)	(0.587)	(0.859)	(0.498)	(0.056)	(0.025)
LOG_GDP	0.037***	0.031***	0.029***	0.028***	0.014**	0.010	0.049***	0.064***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.028)	(0.123)	(0.000)	(0.000)
INDE			0.002	0.003**		0.001		0.003
			(0.161)	(0.038)		(0.378)		(0.103)
USGAAP	0.271***	0.316***	0.209***	0.248***	0.292***	0.228***	0.241***	0.119***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
IFRS	-0.036**	0.009	-0.091***	-0.057***	-0.002	-0.062***	0.027	-0.043**
	(0.020)	(0.586)	(0.000)	(0.000)	(0.893)	(0.000)	(0.117)	(0.012)
SIZE	-0.039***	-0.040***	-0.021***	-0.022***	-0.063***	-0.040***	-0.043***	-0.026***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
LEVERAGE	-0.682***	-0.690***	-0.531***	-0.534***	-0.546***	-0.434***	-0.767***	-0.607***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
PROFIT	0.004***	0.003***	0.004***	0.004***	0.002***	0.002***	0.004***	0.004***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
GROWTH	0.237***	0.236***	0.168***	0.167***	0.199***	0.141***	0.275***	0.204***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
|DAC|			0.398***	0.404***		0.417***		0.376***
			(0.000)	(0.000)		(0.000)		(0.000)
A_REM			-0.247***	-0.246***		-0.205***		-0.277***
			(0.000)	(0.000)		(0.000)		(0.000)
CROSS			-0.214***	-0.167***		-0.181***		-0.321***
			(0.000)	(0.000)		(0.000)		(0.000)
Industry Fixed Effects	Yes	Yes	No	No	Yes	No	Yes	No
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.063	0.065	0.077	0.078	0.051	0.061	0.073	0.089
No. of Observations	41,171	41,171	41,171	41,171	34,199	34,199	37,592	37,592

Table 21

Multivariate Tests for the Valuation Gap between Offshore and Non-offshore Firms Using the Industry-Size Matched Non-offshore Sample

Using the industry-size matched non-offshore sample, this table reports panel regression estimates with Q_Diff and IAQ_Diff (Industry Adjusted Tobin's Q) as dependent variables. Q_Diff is calculated by an offshore firm's Tobin's Q minus matched non-offshore firm's Q, while IAQ_Diff is obtained by an offshore firm's Q minus matched non-offshore firm's IAQ. Tobin's Q_Diff regressions include industry and (or) year fixed effects, while IAQ regressions are controlled for year fixed effects. Firm or country fixed effects are not included because OFCINDEX variable does not vary through time and across countries. To account for error term correlation within countries, standard errors are clustered by countries. The standard errors are robust to heteroschedasticity. The numbers in parentheses are probability levels at which the null hypothesis of zero coefficient can be rejected. *, **, *** indicate significance at the 10%, 5%, and 1% levels (based on a two-tailed test), respectively. (H5b) refers to the fifth-b hypothesis described in the text. All of the variables are defined in Appendix A.

	Q_Diff (1)	Q_Diff (2)	IAQ_Diff (3)	IAQ_Diff (4)
YEAR2002 (H5b)	-0.089**	-0.067*	-0.089**	-0.067*
	(0.013)	(0.060)	(0.013)	(0.060)
OFCINDEX	0.001	0.037	0.001	0.037
	(0.973)	(0.367)	(0.973)	(0.367)
TAX	0.907	0.638	0.907	0.638
	(0.264)	(0.467)	(0.264)	(0.467)
LOG_GDP	-0.012	0.017	-0.012	0.017
	(0.621)	(0.707)	(0.621)	(0.707)
INDE		0.028***		0.028***
		(0.000)		(0.000)
USGAAP	0.631***	0.826***	0.631***	0.826***
	(0.000)	(0.000)	(0.000)	(0.000)
IFRS	0.384***	0.439***	0.384***	0.439***
	(0.000)	(0.000)	(0.000)	(0.000)
LEVERAGE	-0.334***	-0.320***	-0.334***	-0.320***
	(0.000)	(0.000)	(0.000)	(0.000)
PROFIT	0.017***	0.017***	0.017***	0.017***
	(0.000)	(0.000)	(0.000)	(0.000)
GROWTH	0.173***	0.107***	0.173***	0.107***
	(0.000)	(0.005)	(0.000)	(0.005)
|DAC|		0.328***		0.328***
		(0.000)		(0.000)
A_REM		-0.241***		-0.241***
		(0.000)		(0.000)
CROSS		0.104		0.104
		(0.451)		(0.451)
Industry Fixed Effects	Yes	Yes	No	No
Year Fixed Effects	No	Yes	No	Yes
Adjusted R^2	0.046	0.062	0.046	0.062
No. of Observations	10,390	10,390	10,390	10,390

Table 22

Multivariate Tests for Offshore Firm Value Controlling for Firm Institutional Ownership

This table reports panel regression estimates with Tobin's Q and Industry Adjusted Tobin's Q (IAQ) as dependent variables controlling for firm institutional ownership in every regression. Tobin's Q regressions include industry and year fixed effects, while IAQ regressions are controlled for year fixed effects. Firm or country fixed effects are not included because OFCINDEX variable does not vary through time and across countries. To account for error term correlation within countries, standard errors are clustered by countries. The standard errors are robust to heteroschedasticity. Columns (1) - (4) use full sample including Type I and Type II offshore firms and non-offshore firms. Columns (5) and (6) use Type I sub-sample including Type I and non-offshore firms, while the Type II sub-sample of Columns (7) and (8) include Type II offshore firms and non-offshore firms. The numbers in parentheses are probability levels at which the null hypothesis of zero coefficient can be rejected. *, **, *** indicate significance at the 10%, 5%, and 1% levels (based on a two-tailed test), respectively. (H5a) and (H6) refer to the fifth-a and sixth hypotheses described in the text, respectively. All of the variables are defined in Appendix A.

	Full Sample				Type I Sample		Type II Sample	
	Tobin's Q (1)	Tobin's Q (2)	IAQ (3)	IAQ (4)	Tobin's Q (5)	IAQ (6)	Tobin's Q (7)	IAQ (8)
OFFSHORE (H5a)	0.061**	0.140***	-0.010	0.041	-0.660***	-0.614***	0.169***	0.062**
	(0.023)	(0.000)	(0.721)	(0.135)	(0.000)	(0.000)	(0.000)	(0.027)
OFCINDEX	-0.011	0.194***	0.082***	0.252***	0.043	0.118***	0.107**	0.208***
	(0.739)	(0.000)	(0.010)	(0.000)	(0.164)	(0.000)	(0.013)	(0.000)
OFFSHORE* OFCINDEX (H6)		-0.330***		-0.282***				
		(0.000)		(0.000)				
TAX	-3.014***	-2.365***	-3.101***	-2.811***	-2.625***	-3.046***	-2.932***	-3.204***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
LOG_GDP	0.120***	0.077***	0.119***	0.100***	0.036***	0.060***	0.062***	0.110***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.005)	(0.000)	(0.000)	(0.000)
OWNERSHIP	-0.002***	-0.002***	-0.001	-0.001	-0.000	0.001*	-0.002***	-0.001
	(0.003)	(0.000)	(0.225)	(0.163)	(0.420)	(0.064)	(0.001)	(0.293)
INDE			0.013***	0.017***		0.020***		0.018***
			(0.000)	(0.000)		(0.000)		(0.000)
USGAAP	0.338***	0.444***	0.313***	0.426***	0.436***	0.443***	0.440***	0.383***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
IFRS	0.023	0.120	-0.091***	-0.010	0.033	-0.110***	0.121***	-0.006
	(0.516)	(0.001)	(0.009)	(0.785)	(0.351)	(0.002)	(0.002)	(0.885)
SIZE	-0.048***	-0.049***	-0.032***	-0.032***	-0.090***	-0.065***	-0.050***	-0.033***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
LEVERAGE	-0.894***	-0.925***	-0.681***	-0.703***	-0.672***	-0.516***	-0.994***	-0.758***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
PROFIT	0.007***	0.006***	0.007***	0.007***	0.002***	0.003***	0.007***	0.007***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)
GROWTH	0.317***	0.315***	0.219***	0.216***	0.268***	0.185***	0.341***	0.235***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
|DAC|			0.413***	0.416***		0.427***		0.394***
			(0.000)	(0.000)		(0.000)		(0.000)
A_REM			-0.314***	-0.307***		-0.262***		-0.340***
			(0.000)	(0.000)		(0.000)		(0.000)
CROSS			-0.207***	-0.091**		-0.143***		-0.183***
			(0.000)	(0.046)		(0.000)		(0.000)
Industry Fixed Effects	Yes	Yes	No	No	Yes	No	Yes	No
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.087	0.092	0.101	0.104	0.086	0.092	0.099	0.113
No. of Observations	18,042	18,042	18,042	18,042	13,154	13,154	17,043	17,043

Table 23

Accounting Performance of Offshore Firms

This table reports panel regression estimates with EBITDA-on-Assets (ROA) and EBITDA-on-Book Equity (ROE) as dependent variables. All regressions include industry and year fixed effects. Firm or country fixed effects are not included because OFCINDEX variable does not vary through time and across countries. To account for error term correlation within countries, standard errors are clustered by countries. The standard errors are robust to heteroschedasticity. Columns (1) and (2) use full sample including Type I and Type II offshore firms and non-offshore firms. Columns (3) and (4) use Type I sub-sample including Type I and non-offshore firms, while the Type II sub-sample of Columns (5) and (6) include Type II offshore firms and non-offshore firms. The numbers in parentheses are probability levels at which the null hypothesis of zero coefficient can be rejected. *, **, *** indicate significance at the 10%, 5%, and 1% levels (based on a two-tailed test), respectively. All of the variables are defined in Appendix A.

	Full Sample		Type I Sample		Type II Sample	
	ROA (1)	ROE (2)	ROA (3)	ROE (4)	ROA (5)	ROE (6)
OFFSHORE	0.008	0.003	-0.009	-0.089	0.010**	0.006
	(0.108)	(0.955)	(0.324)	(0.272)	(0.012)	(0.893)
OFCINDEX	0.031***	0.141***	0.029***	0.101**	0.020***	0.116**
	(0.000)	(0.004)	(0.000)	(0.012)	(0.000)	(0.025)
OFFSHORE* OFCINDEX	-0.009*	-0.084*				
	(0.094)	(0.097)				
TAX	-0.000	0.002	-0.001	0.001	-0.001	0.000
	(0.875)	(0.941)	(0.818)	(0.969)	(0.608)	(0.996)
LOG_GDP	-0.005**	0.001	-0.004**	-0.001	-0.011***	-0.012
	(0.017)	(0.950)	(0.026)	(0.966)	(0.000)	(0.571)
INDE	-0.003***	-0.008*	-0.003***	-0.008*	-0.004***	-0.012**
	(0.000)	(0.078)	(0.000)	(0.085)	(0.000)	(0.011)
USGAAP	-0.073***	-0.275***	-0.077***	-0.311***	-0.071***	-0.284***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
IFRS	0.003	0.034	-0.004	0.009	-0.008**	0.017
	(0.594)	(0.448)	(0.445)	(0.843)	(0.034)	(0.715)
SIZE	0.036***	0.184***	0.039***	0.197***	0.036***	0.181***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
LEVERAGE	-0.166***	-1.627***	-0.183***	-1.778***	-0.162***	-1.566***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
GROWTH	0.067***	0.193***	0.062***	0.214***	0.084***	0.208***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
|DAC|	-0.034***	-0.205***	-0.016**	-0.169**	0.089***	0.315***
	(0.000)	(0.000)	(0.023)	(0.010)	(0.000)	(0.000)
A_REM	-0.030***	-0.107***	-0.034***	-0.118***	-0.040***	-0.148***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
CROSS	-0.021***	-0.096	-0.022***	-0.118**	-0.012**	-0.081
	(0.001)	(0.107)	(0.000)	(0.043)	(0.037)	(0.239)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.068	0.023	0.072	0.025	0.140	0.024
No. of Observations	41,173	41,173	34,200	34,200	37,593	37,593

Appendix A

Variables Definition and Data Sources

"DATA" refers to data item number in the Osiris database. Δ refers to annual changes.

Variables	Definition	Data Sources
Variables Used to Estimate Abnormal Accruals and Real Earnings Management		
IBEI	Earnings before extraordinary items and discontinued operations = DATA13037-DATA13043	Osiris
A	Total assets = DATA13077	Osiris
Sales	Net sales = DATA13002	Osiris
ΔSales	Change in net sales = ΔDATA13002	Osiris
REV	Total revenues = DATA13004	Osiris
ΔREV	Change in total revenues = ΔDATA13004	Osiris
PPE	Gross value of property, plant and equipment = DATA20095 + DATA20110 + DATA20125 + DATA20140+ DATA20155 + DATA20170	Osiris
REC	Net accounts receivables = DATA13052	Osiris
MEV	Market capital= DATA21220 - DATA21215.	Osiris
DISEXP	Discretionary expenses = DATA22020 + DATA22035	Osiris
COGS	Cost of goods sold = DATA22199	Osiris
INV	Inventory = DATA20010	Osiris
PROD	Production costs = (COGS+ΔINV) = (DATA22199 + ΔDATA20010).	Osiris
CFO	Operating cash flow = MEV /DATA31085	Osiris

ACCR	Total accruals = IBEI – CFO

Appendix 1 (Continued)

Variables	Definition	Data Sources
Proxies for Accruals and Real Manipulations		
DAC	Discretionary accruals are measured as deviations from the predicted values by the following cross-sectional regression for every industry-year: $ACCR_{it}/(A_{it-1}) = \alpha_1 (1/A_{it-1}) + \alpha_2 (\Delta REV_{it} - \Delta REC_{it})/(A_{it-1}) + \alpha_3 (PPE_{it})/(A_{it-1}) + \varepsilon_{it}$.	Osiris
|DAC|	Absolute abnormal accruals.	Osiris
P_DAC	Positive value of abnormal accruals.	Osiris
A_CFO	Abnormal operation cash flows are measured as the deviations from the predicted values by the following cross-sectional regression for every industry-year: $CFO_{it}/(A_{it-1}) = \alpha_1 (1/A_{it-1}) + \alpha_2 (Sales_{it})/(A_{it-1}) + \alpha_3 (\Delta Sales_{it})/(A_{it-1}) + \varepsilon_{it}$.	Osiris
A_DISE	Abnormal discretionary expenses are measured as deviations from the predicted values by the following cross-sectional regression for every industry-year: $DisExp_{it}/(A_{it-1}) = \alpha_1 (1/A_{it-1}) + \alpha_2 (Sales_{it-1})/(A_{it-1}) + \varepsilon_{it}$.	Osiris
A_PROD	Abnormal production costs are measured as the deviations from the predicted values by the following cross-sectional regression for every industry-year: $PROD_{it}/(A_{it-1}) = \alpha_1 (1/A_{it-1}) + \alpha_2 (Sales_{it})/(A_{it-1}) + \alpha_3 (\Delta Sales_{it})/(A_{it-1}) + \alpha_4 (\Delta Sales_{it-1})/(A_{it-1}) + \varepsilon_{it}$.	Osiris
A_REM	Real earnings management, which is the sum of (-1)*A_CFO, (-1)*A_DISE and A_PROD	Osiris
Country-Level Variables		
OFCINDEX	The Offshore Attitude Index is from Masciandaro (2006). It is an index that measures attitudes towards OFCs based on multiple factors such as potential national benefits, political stability, regulations enforcement, the presence of crime, and an inclusion in one of the OFCs' blacklists: Financial Stability list, FATF list of Non Cooperative Countries and Territories, and OECD list of tax havens. The index is equal to 0 if a country shows a strong onshore attitude; 1 if a country does not show a strong onshore attitude but it was not listed in one of the blacklists; 2, 3, and 4 if a country was present in one, two, or three blacklists,	Masciandaro (2006)

	respectively.	
LOG_GDP	Measure of economic development defined as the log of GDP.	IMF and CIA World Factbook

Appendix 1 (Continued)

Variables	Definition	Data Sources
TAX	Average corporate tax rate.	IMF and OECD
Firm-Level Variables		
Tobin's Q	Enterprise Value / Total assets = DATA21220 / DATA13077	Osiris
IAQ	Industry adjusted Tobin's Q which is calculated by Tobin's Q of every firm-year observation minus the mean Q of firm's industry.	Osiris
Q_Diff	Equals to an offshore firm's Tobin'Q minus an industry-size matched non-offshore firm's Tobin'sQ	
IAQ_Diff	IAQ_Diff is obtained by an offshore firm's IAQ minus an industry-size matched non-offshore firm's IAQ	
OWNERSHIP	Percentage of common shares owned by the top three shareholders of an offshore firm.	Osiris
OFFSHORE	Equal to 1 if a firm is an offshore firm and 0 otherwise.	IMF website: http://www.internationalmonetaryfund.com
USGAAP	Equals 1 if an offshore firm follows USGAAP, and 0 otherwise.	Osiris
IFRS	Equals 1 if an offshore firm follows IFRSs, and 0 otherwise.	Osiris
MTB	Market-to-book ratio = Market capital / Total shareholders equity (DATA14041)	Osiris
BIG5	Equals 1 if an offshore firm is audited by one of the Big 5 auditors, and 0 otherwise.	Osiris and annual reports
NETI	Scaled net profit of current period = DATA 13045/ A_{it}.	Osiris
SIZE	Log of the total sales of a firm at the beginning of the fiscal period = Log (DATA13002).	Osiris
LITIGATE	Equals 1 for firms in the biotechnology (ICB 4533-4577), computers (ICB 9533-9578), electronics (ICB 2733-2737), and retail (ICB 5333-5379) industries, and 0 otherwise.	Osiris and firms' annual reports.
INDE	This variable ranges from 0 through 10 and represent the degree of independency of minority shareholders from controlling shareholders with the value of 10 indicating the highest degree independency.	Osiris
GROWTH	Sales growth over the past two years =ΔDATA13002/ DATA13002	Osiris

PROFIT	A firm's return on assets for the prior year = DATA31070	Osiris
LEVERAGE	The ratio of total liabilities to total assets = DATA14022/ DATA13077	Osiris
CL	Scaled current liabilities = DATA14011/ A_{it}.	Osiris

Appendix 1 (Continued)

Variables	**Definition**	**Data Sources**
INVREC	Scaled sum of inventories and receivables = (DADA13061+ DATA14011)/ A_{it}.	Osiris
DISTRESSED	This is a measure of a firm's financial distress. It is defined as a dummy variable equal to 1 (for a firm in financial distress) if the firm's Z-score is less than 2.675, and 0 otherwise. The Z-score is: $Z\text{-score}_{it} = 3.3^* NETI_{it} + 1.0^* SALES_{it} / A_{it} + 1.4^*$ Retained Earnings $_{it}$ (DATA14036)/ A_{it} $+ 1.2^*$ Working Capital $_{it}$ (DATA13061- DATA14011)/ $A_{it} + 0.6^*$ Share Capital $_{it}$ (DATA21135)/ A_{it}.	Osiris
Other Variables		
TYPE	Equals 1 if a firm registers in OFCs and 0 if a firm set up affiliates in OFCs.	Osiris
SOX	Equals 1 if an observation is related to the post-SOX period (after 2002), and 0 otherwise.	Osiris
YEAR	Year dummies	
YEAR2002	Equals 1 if an observation is in a year after 2002, 0 otherwise.	
INDUSTRY	Industry dummies. Industries are as defined in the Osiris which groups industry into Energy, Materials, Industrial, Consumer Discretionary, Consumer Staples, Health Care, Financials, Information Technology, Telecommunication Services, and Utilities.	Osiris
CROSS	Equals 1 if a firm is cross-listed in stock markets of other countries or jurisdictions, 0 otherwise.	Osiris