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# **The Governance of Offshore Firms: Implications for Financial Reporting\***

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## **Abstract**

This paper explores the quality of financial reporting of firms that operate in Offshore Financial Centers (OFC). Using a large sample of 10,553 offshore firm-year observations in 21 OFCs, we find that offshore firms engage in more earnings management than non-offshore firms, and OFCs facilitate both accruals and real earnings management. In addition, we document that as the offshore characteristics (measured by the Offshore Attitude Indexes) become more prevalent firms are more likely engage in accruals management rather than real earnings activities. Further, our analysis provides evidence that the enactment of the Sarbanes-Oxley Act (SOX) significantly decrease accruals management of offshore firms that are listed or cross-listed in the U.S. stock markets.

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Key Words: Offshore Financial Centers, Financial Reporting, Earnings Management.

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# The Governance of Offshore Firms: Implications for Financial Reporting

## I. Introduction

This paper explores the quality of financial reporting of firms that are registered in or set up affiliates in offshore financial centers (OFCs).<sup>2</sup> Specifically, we examine whether firms' reliance on OFCs affects their quality of financial reporting which is measured by earnings management. Moreover, we seek to understand how offshore firms<sup>3</sup> manage their earnings. To this end, we empirically examine whether the Sarbanes-Oxley Act (SOX) significantly affect earnings management of offshore firms that are listed or cross-listed in the U.S stock markets.

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, 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.<sup>4</sup> According to the

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<sup>2</sup> Although there is no "precise" definition of OFCs, we follow the International Monetary Fund (IMF) definition 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>.

<sup>3</sup> In this paper we 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.

<sup>4</sup> *The Economist* February 22, 2007 Survey.

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. This trend of firms' migrating or setting up affiliates in OFCs might 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).<sup>5</sup>

However, the unique institutional environment of OFCs, combined with the complex legal structures of offshore firms may reduce the quality of financial reporting of offshore firms. Firstly, operating under the looser legal regimes of OFCs and their flexible regulations as well as limited investor protection, firms are more likely to manage their earnings (Leuz, Nanda and Wysocki (2003)), even for U.S. firms that have affiliates in OFCs (Type II offshore firms). Furthermore, the legal 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 can use this multi-tiered legal structure to change their corporate governance which in turn affects their quality of financial reporting.

Secondly, using accruals management along with tax sheltering managers can largely increase after tax earnings and increase their bonuses several times compared to only using tax sheltering, where the tax costs are quite small (Desai and Dharmapala (2009)). Thus, managers of offshore firms might have high incentives to manage their earnings

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<sup>5</sup> The institutional background of OFCs is described in Appendix B.

based on tax avoidance. Finally, the secrecy policies of most OFCs largely increase offshore firms' information asymmetry between shareholders and managers, making it easier and less risky for managers to manage earnings (Bhattacharya et al. (2003)).

The opaque and poor financial reporting of many offshore firms has enabled them to evade paying taxes and to loot money from investors. Recently 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 are important and fundamental for academia, practitioners and regulators.

Besides exploring the quality of financial reporting of offshore firms, a novel feature of this paper is to deeply 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, we examine both accruals and real earnings activities of offshore firms, predicting that as an OFC exhibits more OFC characteristics its firms may prefer accruals management rather than real earnings activities.

Spurred by financial scandals involving such companies as Enron and Parmalat, the Securities and Exchange Commission (SEC) issued the Sarbanes-Oxley Act in 2002 to enhance firms' corporate governance and financial reporting quality. The changes mandated by SOX are essential and broad. Thus, the enforcement of SOX might also impact on the financial reporting quality of offshore firms which are listed or cross-listed

on the U.S stock markets.

We address these hypotheses by identifying offshore firms and comparing accruals and real earnings activities between offshore and non-offshore firms. We further test the relationship between the Offshore Attitude Indexes<sup>6</sup> of offshore firms and their accruals and real earnings management. Our sample period is from 1998 to 2007. The large sample, drawn over a long time period, allows us to compare earnings management of offshore firms that are listed or cross-listed in the U.S. stock markets for both pre- and post- SOX periods.

Consistent with prior studies (Leuz, Nanda and Wysocki (2003), Zang (2007), Cohen, Dey and Lys (2008)), using a large international sample including 10,553 firm-year observations from 21 OFCs, we demonstrate that offshore firms are more likely to engage in earnings management than non-offshore firms in both accruals and real earnings management. These findings hold after controlling for the self-selection bias and other variables related to earnings management. In addition, offshore firms in OFCs with higher Offshore Attitude Indexes are more likely to manage their earnings by accruals rather than real activities. 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.

This study contributes to the current literature in the following ways. First, it broadens the earnings management literature to a new type of firms, the firms that operate through

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<sup>6</sup> 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, loose legal regime, flexible regulations, unstable policies and more economic crimes.

the OFCs. Offshore firms have no or less physical assets in the OFCs where they are registered or set up affiliates,<sup>7</sup> and operate their business all over the world, while they hire expertise around the world to provide them professional 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 (2009) examine the relationship between earnings management and corporate tax shelters, their study only considers 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 the sample that comprises Type I and Type II offshore firms, we 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 to managing earnings (Zang (2007), Cohen, Dey and Lys (2008)). This study further extends 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 paper explores how management chooses different alternatives to manage their earnings based on OFCs where institutional environments are quite different from that of U.S.

Furthermore, the study makes a contribution to the research in international financial reporting. La Porta et al. ((1998) and (2000)) document significant cross-country differences in legal institutions and investor protection and discuss potential implications

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<sup>7</sup> 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/](http://www.whitehouse.gov/) )

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, probably leading managers to be more aggressive. For instance, our results document 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 well protected. This paper 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 multi-tiered legal structures in an international setting.

Finally, this study also contributes to the literature on the impact of the SOX on financial reporting by focusing on how the SOX influenced earnings management of offshore firms. Using offshore firms which are listed or cross-listed in the U.S. stock markets we test whether the SOX enhances their corporate governance and in turn reduces their earnings management.

The rest of the paper is organized as follows. Section II develops our hypotheses. In section III, we present the data and sample and discuss the empirical methodology. Empirical findings are presented and discussed in the section IV. Section V concludes.

## **II. Hypotheses Development**

In this section, we develop the main hypotheses.

### *A. Offshore Financial Centers*

More than forty OFCs can be found around the world (Figure 1) but their development has not been consistent.<sup>8</sup> 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 financial markets, such as the Cayman Islands.<sup>9</sup>

[INSERT FIGURE 1 HERE]

Furthermore, 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. For example, in 2006, Bermuda was the richest country in the world with a GDP per person about \$70,000 U.S. compared with \$43,500 U.S. for the United States.<sup>10</sup> Therefore, as a jurisdictional group, OFCs can no longer be ignored in the global economy.

[INSERT FIGURE 2 HERE]

In this paper, we define an offshore firm as a company that registers in an OFC or has affiliates in an OFC or OFCs. This study considers all OFCs listed in the IMF surveys of OFCs. Furthermore, we 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.

### *B. Earnings Management 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

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<sup>8</sup> Data source: IMF surveys and Financial Stability Forum (2000).

<sup>9</sup> The institutional background of OFCs is described in Appendix B.

<sup>10</sup> *The Economist* February 22 2007 Survey.

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 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 less likely to recognize losses in a timely manner. Their results show that home-country institutions of cross-listing firms continue to influence cross-listed firms' reporting behavior. 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 developed countries, 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. Enron moved its debts to offshore partnerships to keep them off its balance sheet. These offshore affiliates' opaque financial disclosure 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.<sup>11</sup>

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<sup>11</sup> Data source: <http://www.sec.gov/news>.

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 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' 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 the 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 (2006) document that the aim of managers' using off-balance-sheet is not for an economic purpose but rather to increase earnings. Although the SEC 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 and in turn increasing earnings (Chandra, Ettredge and Stone 2006).

Scott and Bradley (2009) document that U.S. firms with operations in one or more OFCs (tax havens) enjoy low taxation and have about 1.5% less tax burden than other U.S. firms without operations in tax havens. Based on the tax avoidance benefits of U.S. firms, Desai and Dharmapala (2009) illustrate the relation between tax avoidance and earnings management of Type II U.S. offshore firms through a simulated example.<sup>12</sup> 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 get increased bonuses a small amount from 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 largely 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

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<sup>12</sup> 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.

are quite small. On the other hand, by 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 (2009) 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 the offshore 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 nonaffiliated 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 gives us some 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. Therefore, for firms which have affiliates in OFCs, although they are required to obey the regulations of the countries where they are registered, their affiliates in OFCs make it easy for them to manage their earnings.

These give rise to our first hypothesis:

*H1: Ceteris paribus, offshore firms are more likely to engage in earnings management than non-offshore firms.*

### *B. How Earnings are Managed*

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 firms' current and future cash flows. 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, which in turn distorting firms' financial reporting. In addition, firm management can choose different earnings management alternatives based on their cost-benefit consideration.

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 the 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-benefit of auditor and regulator's scrutiny, managers tend to choose real earnings management with 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, firms in stricter legal regimes tend 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, we use the Offshore Attitude Indexes (OFCINDEX) as the proxy of OFC characteristics. 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)<sup>13</sup> as a possible center for money laundering, or by the Financial Stability Forum (FSF)<sup>14</sup> as non cooperative country and territory. Second, countries and jurisdictions are coded by legal environment and common law, political stability, potential national benefits and crime pollution. The OFCINDEX's range 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 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 we 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.*

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<sup>13</sup> 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>.

<sup>14</sup> 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>.

### *C. 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 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, we posit our 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.*

## **III. Research Design**

### *A. Sample Selection and Data*

We obtained a list of offshore financial centers from the IMF website and Zorome's (2007) study.<sup>15</sup> We began our sample collection by finding OFCs in the OSIRIS international database. OSIRIS (maintained by the Bureau Van dijk Electronic Publishing)

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<sup>15</sup> For more details, refer to the surveys of the International Monetary Fund, [www.internationalmonetaryfund.com](http://www.internationalmonetaryfund.com).

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, our sample encompasses 21 offshore financial centers. Within these OFCs, we were then able to obtain data on Type I offshore firms (companies that are registered in OFCs) for 1,806 firms (12,502 firm-year observations during the 1998-2007 period). Panel A of Table I 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 U.S. and U.K. large multinational firms set up affiliates in OFCs. We take U.S. and U.K. offshore firms (companies that set up affiliates in OFCs) as Type II offshore firms. Besides U.S. and U.K., there are of course Type II offshore firms from other countries. Then, we 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, we created a data set of Type II offshore firms including 3,515 firms (2,826 U.S. firms and 689 U.K. firms) with 23,079 firm-year observations. Table I Panel B summarizes the Type II offshore firms by jurisdictions.

[INSERT TABLE I HERE]

Some U.S. and U.K. firms have subsidiaries in different OFCs. We only count these firms once in the sample of Type II offshore firms even if they have affiliates in more than one OFC. Following this procedure, we obtained 1,390 Type II offshore firms (1,017 U.S. and 373 U.K. firms) with 12,040 firm-year observations. We restrict our sample to all non-financial, active and listed firms. Moreover, we require that each

firm-year observation data can be used to calculate discretionary accruals and the proxies of real earnings management that we 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.

In order to test our third hypothesis, we constructed a subsample including U.S Type II offshore firms and Type I offshore firms that are cross-listed in the U.S stock markets.<sup>16</sup> There are 975 offshore firms with 6,266 firm-year observations, which are listed or cross-listed in the U.S stock markets.

The sample of non-offshore firms comes from all other (non-OFCs) countries in OSIRIS database. Again, we delete firm-year observation data that cannot be used to calculate discretionary accruals and the proxies of real earnings management, 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.

Our 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 addition, the OSIRIS database also gives us some country-level and firm-level data, such as the economic development and the accounting standards of different OFCs. Appendix A presents a summary of all variables used in this study and their relevant data sources.

### *B. Measurement of Accrual and Real Manipulations*

We use the modified cross-sectional Jones model (Jones (1991)) as described in

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<sup>16</sup> In this paper, we 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.

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;  $\Delta REV_{it}$  is changes in revenue from the prior year;  $PPE_{it}$  is gross value of property, plant, and equipment. We 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  $\Delta REC_{it}$  is the changes in net receivables.

Based on prior literature, we adjust the changed revenues of the sample firms ( $\Delta REV_{it}$ ) with the changed accounts receivable ( $\Delta REC_{it}$ ) to eliminate potentially increased discretionary credit sales. Our 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  $DAC_{it} = ACCR_{it}/(A_{it-1}) - NDAC_{it}$ .

Following prior research (Roychowdhury (2006), Zang (2007) and Gunny (2005)) we explore our proxies for real earnings manipulations: 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 we 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, we use lagged sales to estimate normal discretionary expense (DISE),

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

We model normal cost of goods sold (COGS) and inventory growth ( $\Delta INV$ ) 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  $\Delta INV$  of the year.

Thus, we 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 we 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 operation (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 we 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.

### C. Empirical Model

We use the following panel regressions to test our hypotheses:

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

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

The dependent variable  $Y_{it}$  refers to the measures of accrual 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  $t$ .

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

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  $t$ .

We include industry fixed effects in every regression to account for the impact of some industry characteristics on proxies of earnings management (Roychowdhury (2006)). Country fixed effects are not included because 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. We do not include time fixed effect because accruals and real earnings management variables are calculated for every year. Our 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 1. We 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*).

*SOX*: this variable is equal to 1 in the period from 2003 to 2007 which we define as post-SOX period, and 0 in the period from 1998 to 2002 which we define as pre-SOX period. This variable is used to test Hypothesis 3, and we 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 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 Section II, 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 index 0 refers to the highest level of legal environment, policy stability, and potential national benefits and the lowest level of crime pollution. This interaction, OFFSHORE\*OFCINDEX, is adopted to test Hypothesis 2. We predict that the higher the interaction, the more likely a firm manages its earnings by accruals.

Prior research (e.g., Zang (2007) and Roychowdhury (2006)) suggests multiple other factors that are likely to affect firms' earnings management. Therefore, we include country-level control variables, such as the logarithm of GDP (LOG\_GDP) and the average corporate tax rates (TAX) in the cross-sectional regressions. With regard to firm-level control variables, we use auditor reputation (BIG5), accounting standards (USGAAP and IFRS), firms' economic characteristics that affect operation cash flows (CL, INVREC and DISTRESSED), firm size (SIZE) and growth (MTB and NETI). The litigation risks of offshore firms are captured by four industries - biotechnology, computers, electronics, and retail - with particularly high litigation risks which impact firms' discretionary accruals (LITIGATE). In order to address the institutional effects of OFCs on litigation risks, we also include an interaction term between OFCINDEX and LITIGATE. Moreover, firms' entrenched controlling shareholders also affect their decision about accruals and real earnings management. Therefore, we use the independency (INDE) that captures a firm's independent magnitude from controlling

shareholders to control this impact. Furthermore, we use several interaction terms: an interaction term of OFCINDEX with BIG5 (OFCINDEX\*BIG5), an interaction term of OFFSHORE dummy with firm size (OFFSHORE\*SIZE), and an interaction term of OFFSHROE dummy with growth (OFFSHORE\*MTB) to control the institutional effects of OFCs on these firm-level variables. Finally, industry-level factors are controlled by different industry categories (INDUSTRY). These variables are defined in Appendix A.

## **IV. Results**

### *A. Descriptive Statistics*

To eliminate the effects of outliers, we exclude observations with Cook's D statistics greater than ten and winsorize the top and bottom 1 percent of the distribution. Table II reports the summary statistics of offshore firms. Table II Panel A presents the means, medians, standard deviations, and the 25<sup>th</sup> and 75<sup>th</sup> percentiles for the variables used in this study. Besides the variable OWNERSHIP, the sample is significantly large. As indicated in Table II 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.

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.

In the full 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 firms 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, meaning that offshore firms are high growth firms with high leverage. On average, more than 39% of offshore firm-year observations are located in the industries (biotechnology, computers, electronics, and retail industry) with higher litigation risks. With regard to corporate governance, the mean of independency of offshore firms is relatively low, which is 2.98 out of 10.

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

[INSERT TABLE II HERE]

### *B. Univariate Results*

Table III presents the Pearson correlation matrix for offshore firms. 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 the Big 5 auditors manage earnings less, which is indicated by a negatively correlation coefficient with the absolute value of abnormal accruals

(|DAC|) and abnormal production costs (A\_PROD).

[INSERT TABLE III HERE]

Panel A of Table IV compares firm-level and country-level variables for offshore and non-offshore firms. 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. The results also indicate that offshore firms and non-offshore firms differ significantly in the means and medians of accruals and real earnings management. 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 independency of offshore firms (INDE) is significantly lower than non-offshore firms.

Panel B of Table IV compares Type I and Type II offshore firms. The results indicate that Type I offshore firms have significantly higher Offshore Attitude Indexes (1.911) and lower corporate tax rates (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. Interestingly, 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 are significant differences in size and auditor quality.

[INSERT TABLE IV HERE]

### *C. Multivariate Results*

Table VA 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 our prediction (H1), the coefficients on offshore dummy variable (OFFSHORE) are positive and significant at the 1% level in models that use DAC ( $\beta=0.133$ ,  $p<0.000$ ),  $|DAC|$  ( $\beta=0.192$ ,  $p<0.000$ ) and P\_DAC ( $\beta=0.274$ ,  $p<0.000$ ) 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) with the Offshore Attitude Indexes (OFCINDEX) is positively significant for DAC ( $\beta=0.013$ ,  $p<0.005$ ),  $|DAC|$  ( $\beta=0.035$ ,  $p<0.000$ ) and P\_DAC ( $\beta=0.036$ ,  $p<0.013$ ). 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 dependent variable ( $\beta= -0.018$ ,  $p<0.000$ ) and positive discretionary accruals (P\_DAC) as dependent variable ( $\beta= -0.010$ ,  $p<0.000$ ), 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 the absolute value of abnormal accruals ( $|DAC|$ ) model ( $\beta= -0.012$ ,  $p<0.001$ ). In addition, the increased significance of the interaction of OFCINDEX and Big5 suggests that as the Offshore Attitude Indexe increases, auditors of Big5 scrutinize

more on offshore firms in OFCs with higher OFCINDEX ( $\beta = -0.019$ ,  $p < 0.000$ ). Consistent with prior studies (e.g. Zang (2007)), offshore firms with higher litigation risks and of larger size are less likely to manage accruals.

[INSERT TABLE VA HERE]

The results for the real earnings management (Table VIA) are also consistent with the first hypothesis (H1). 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 ( $\beta = 0.063$ ,  $p < 0.010$ ) 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,  $\beta = -0.113$ ,  $p < 0.000$ ), which support 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

VA indicates, combined real earnings management (A\_REM) is significantly less for offshore firms that are larger (OFFSHORE\*SIAE,  $\beta = -0.065$ ,  $p < 0.000$ ). 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 VIA HERE]

The results on the impact of the SOX are presented in Table VII. Consistent with our Hypothesis 3, the dummy variable SOX is negative and significant ( $\beta = -0.159$ ,  $p < 0.000$ ) for the model with |DAC| as dependent variable. Moreover, the coefficients on SOX are negatively significant ( $\beta = -0.262$ ,  $p < 0.012$ ) for the model with A\_CFO as dependent variable, and are positively significant for the model with A\_PROD ( $\beta = 0.209$ ,  $p < 0.000$ ) as dependent variable, as well as for the model with A\_REM ( $\beta = 0.295$ ,  $p < 0.005$ ) as dependent variable. This suggests that following the enactment of the 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 VII HERE]

#### *D. Robustness Checks*

##### *D.1 Self-selection bias*

One can argue that earnings management of offshore firms is driven by certain

individual firm attributes and institutional factors of OFCs. In order to address this issue, we control for self-selection bias using Heckman's (1979) two-step model.

Desai and Hines (2002) and 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, we first estimate a probit selection model of firms' determinants to operate offshore. We then obtain the Inverse Mills Ratios (IMR) and use them in the earnings management second-stage equations (8) and (9). We thus estimate,

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

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

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

According to Tables VB and VIB the results for the Heckman two-stage regressions for accruals and real earnings management are similar to those reported using the OLS approach.

[INSERT TABLE VB AND VIB HERE]

#### *D.2 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 suffers from low power. For example, McNichols (2000) offers evidence that discretionary accruals are correlated with growth and that the mis-pricing 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), we repeat the tests by using the performance-matched technique illustrated in Kothari, Leone and Wasley (2005). Specifically, we 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 VIII that our previously reported results remain unchanged.

[INSERT TABLE VIII HERE]

#### *D.3 Country-weighted least squares*

The number of observations for each country varies for different OFCs (Table I). Thus, the results may be influenced by the unequal sample size across countries and jurisdictions. We alleviate this concern by assigning a proportional (to the number of observations) weights to each country and re-testing equations (2) and (3). Using country-weighted least square (WLS) tests ensure that uneven country representation in our sample do not bias the results toward countries that are more heavily represented. Results of country-weighted least squares (non-tabulated) are similar with those in Table VA and VIA. The results also hold if we simply drop OFCs with the largest number of firms, Singapore and Bermuda.

#### *D.4 Firm institutional ownership*

Kim and Yi (2006) and Haw, Hu, Hwang and Wu (2004) argue that ownership concentration affects incentives to manage earnings. However, because there are many missing ownership variables of offshore firms, we 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 our main findings. The results (non-tabulated) are actually stronger than the results in Table VA and VIA.

#### *D.5 Type I and Type II Offshore Firms*

To examine whether our results are driven by one of the two types of offshore firms, we subdivide the offshore sample into Type I and Type II samples, rerunning our models respectively. After controlling for year and industry fixed effects, the results demonstrate that both types of offshore firms are more likely to manage accruals and real earnings activities than non-offshore firms. Moreover, we test the differences between the two types of offshore firms regarding earnings management. We find that Type I offshore firms use significantly more accruals than Type II offshore firms. Concerning real earnings activities, Type I offshore firms more frequently cut their discretionary expenses but report less overproduction costs than Type II offshore firms.

## **V. Concluding Remarks**

In this paper, we examine the quality of financial reporting of offshore firms which earnings management is the proxy. Specifically, we investigate if offshore firms are more likely to engage in earnings management than non-offshore firms, and how offshore firms manage their earnings as Offshore Attitude Index increases. Further, we examine how the SOX 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, we find that offshore companies are more likely to engage in both accruals and real earnings management. In addition, consistent with our hypothesis, managers of offshore firms that incorporate in OFCs with higher Offshore Attitude Indexes prefer to choose accruals to increase their reported earnings. Finally, the results also indicate that accruals management of offshore firms that are listed or cross-listed in the U.S. stock markets dropped significantly after the SOX was enacted.

This paper contributes to the growing literature on earnings management and the quality international financial reporting. Firstly, this study extends the literature on the subject by exploring earnings management in terms of a new type of firm in an international setting, the offshore firm. Second, this study goes beyond the simple legal origin of one-country mappings which are used in most prior accounting research by investigating the quality of financial reporting of offshore firms operating in multi-tiered legal structures in an international setting. In addition, the paper further sheds additional light on earnings management alternatives by examining the association between OFC characteristics and alternatives of earnings management of offshore firms. Finally, this study investigates internationally the impact of the SOX on offshore firms like Enron that spurred the SEC to implement the SOX.

Finally, even though the majority of jurisdictions that operate as OFCs have a Common Law based legal system, the flexible regulations, limited investor protection, secrecy and low or zero tax policies of most OFCs all adversely affect the quality of financial reporting of offshore firms. As a result, the G20 countries that have already

declared to more closely cooperate to push OFCs to modify their policies and in turn enhance investor protection and information transparency, while the White House announced a plan in April 2009 to curb tax evasion and the theft of assets by U.S. companies operating in OFCs.

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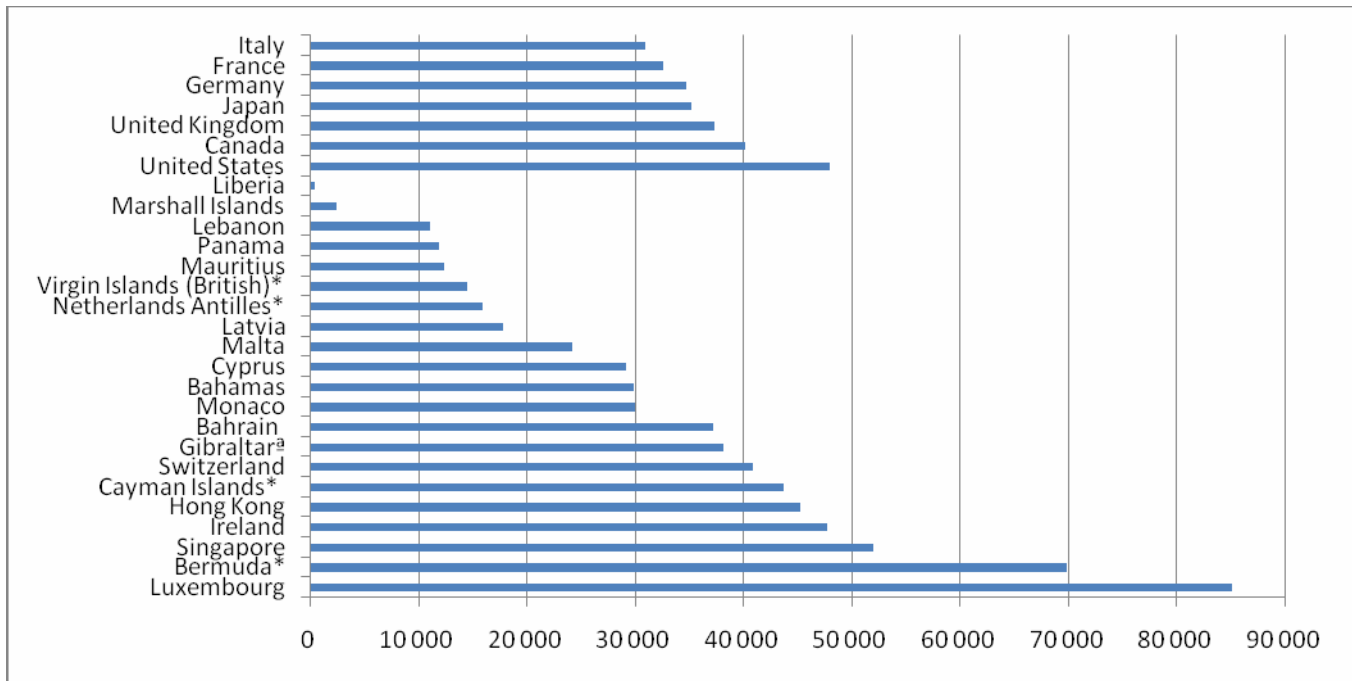
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**Figure 1: Geographical distribution of Offshore Financial Centers.** Source: *The Economist* survey (February 22, 2007).



**Figure 2: 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 <sup>a</sup> 2005 estimates.



**Table I**  
**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.

<b>Panel A</b> 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 I continued**

<b>Panel B</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
<b>Total</b>	<b>2,826</b>	<b>689</b>	<b>3,515</b>	<b>18,511</b>	<b>4,568</b>	<b>23,079</b>

**Table II**  
**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.

<b>Panel A</b> Summary Statistics of Offshore Firms						
Variable	N	25 <sup>th</sup> percentile	Mean	Median	75 <sup>th</sup> 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
<b>Panel B</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 III**  
**Correlation Coefficients**

This table reports pairwise correlation coefficients between the main variables 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 IV**  
**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 firms 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 subsamples. \*, \*\*, \*\*\* 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.

<b>Panel A</b> Offshore and Non-offshore Firms								
<b>Variable</b>	Offshore Firms			Non-Offshore Firms			<b>Difference in means</b>	<b>Difference in medians</b>
	<b>N</b>	<b>Mean</b>	<b>Median</b>	<b>N</b>	<b>Mean</b>	<b>Median</b>	<b>t-test</b>	<b>Z-test</b>
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	5415	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***

**Table IV continued****Panel B** Type I and Type II Offshore Firms

Variable	Type I			Type II			Difference in means	Difference in medians
	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***
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*

**Table VA**  
**Multivariate Tests for Accruals Management of Offshore Firms**

This table reports panel regression estimates with accruals management measures (abnormal accruals, the absolute value of abnormal accruals, and positive abnormal accruals) 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. (H1) and (H2) refer to the first and second hypotheses described in the text, respectively. All of the variables are defined in Appendix A.

	DAC	DAC	P_DAC
OFFSHORE (H1)	0.133*** (0.000)	0.192*** (0.000)	0.274*** (0.000)
OFCINDEX	-0.001 (0.831)	-0.061*** (0.000)	-0.047*** (0.000)
OFFSHORE*OFCINDEX (H2)	0.013*** (0.005)	0.035*** (0.000)	0.036*** (0.000)
TAX	-0.000 (0.976)	-0.003 (0.129)	-0.002 (0.370)
LOG_GDP	0.004** (0.023)	-0.018*** (0.000)	-0.010*** (0.000)
BIG5	-0.009** (0.012)	-0.012*** (0.001)	-0.009*** (0.009)
OFCINDEX*BIG5	-0.005 (0.226)	-0.019*** (0.000)	-0.016*** (0.001)
USGAAP	-0.022*** (0.000)	-0.017*** (0.001)	-0.009* (0.082)
IFRS	0.003 (0.489)	-0.004 (0.248)	-0.001 (0.798)
LITIGATE	0.002 (0.433)	-0.029*** (0.000)	-0.023*** (0.000)
OFCINDEX*LITIGATE	-0.000 (0.921)	0.026*** (0.000)	0.023*** (0.000)
INDE	0.001 (0.201)	0.000 (0.444)	0.001** (0.045)
SIZE	-0.014*** (0.001)	-0.015*** (0.000)	-0.014*** (0.000)
MTB	0.000 (0.520)	0.009*** (0.000)	0.007*** (0.000)
NETI	0.317*** (0.000)	0.106*** (0.000)	0.062*** (0.000)
OFFSHORE*SIZE	-0.014*** (0.000)	-0.010*** (0.000)	-0.020*** (0.000)
OFFSHORE*MTB	-0.001** (0.018)	0.000 (0.216)	0.000 (0.911)
Industry Fixed Effects	Included	Included	Included
Adjusted R <sup>2</sup>	0.049	0.075	0.087
No. of Observations	41,174	41,174	23,290

**Table VB****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, the absolute value of abnormal accruals, and positive abnormal accruals) 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. 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. (H1) and (H2) refer to the first 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 (H1)		0.161*** (0.000)	0.144*** (0.000)		0.232*** (0.000)
OFCINDEX	-0.391*** (0.000)	-0.000 (0.988)	-0.063*** (0.000)	-0.298*** (0.000)	-0.048*** (0.000)
OFFSHORE*OFCINDEX (H2)		0.012*** (0.010)	0.037*** (0.000)		0.038*** (0.000)
TAX	-13.035*** (0.000)	0.000 (0.791)	-0.003* (0.055)	-12.505*** (0.000)	-0.002 (0.223)
LOG_GDP		0.005*** (0.004)	-0.020*** (0.000)		-0.012*** (0.000)
LEVERAGE	-2.151*** (0.000)			-2.072*** (0.000)	
LEVERAGE*TAX	5.809*** (0.000)			5.676*** (0.000)	
BIG5	0.713*** (0.000)	-0.012*** (0.002)	-0.005 (0.153)	0.686*** (0.000)	-0.004 (0.263)
OFCINDEX*BIG5		-0.005 (0.182)	-0.018*** (0.000)		-0.016*** (0.000)
USGAAP		-0.021*** (0.000)	0.018*** (0.000)		-0.010** (0.048)
IFRS		0.002 (0.614)	-0.003 (0.414)		-0.000*** (0.975)
LITIGATE		0.002 (0.675)	-0.030*** (0.000)		-0.024*** (0.000)
OFCINDEX*LITIGATE		-0.001 (0.844)	0.027*** (0.000)		0.023*** (0.000)
INDE		0.001 (0.142)	0.000 (0.663)		0.001* (0.085)
SIZE	0.141*** (0.000)	-0.014*** (0.000)	-0.014*** (0.000)	0.122*** (0.000)	-0.013*** (0.000)
MTB	0.046*** (0.000)	-0.001 (0.117)	0.009*** (0.000)	0.045*** (0.000)	0.007*** (0.000)
NETI		0.317*** (0.000)	-0.105*** (0.000)		0.063*** (0.000)
OFFSHORE*SIZE		-0.014*** (0.000)	-0.009*** (0.000)		-0.020*** (0.000)
OFFSHORE*MTB		-0.001** (0.018)	0.000 (0.211)		0.000 (0.891)
IMR		-0.014** (0.041)	0.024*** (0.000)		0.021*** (0.003)
Industry Fixed Effects	Included	Included	Included	Included	Included
Adjusted or Pseudo R <sup>2</sup>		0.053	0.093		0.106
No. of Observations	41,174	41,174	41,174	23,290	23,290

**Table VIA**  
**Multivariate Tests for Real Earnings Management of Offshore Firms**

This table reports panel regression estimates with real earnings management measures (abnormal operation cash flows, abnormal discretionary expenses, abnormal production costs and the combined real earnings management) 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. (H1) and (H2) refers to the first 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 (H1)	-0.345*** (0.000)	0.063*** (0.001)	0.342*** (0.000)	0.779*** (0.000)
OFCINDEX	-0.039*** (0.000)	-0.094*** (0.000)	0.107*** (0.000)	0.246*** (0.000)
OFFSHORE*OFCINDEX (H2)	0.013*** (0.000)	0.026*** (0.000)	-0.064*** (0.000)	-0.113*** (0.000)
TAX	-0.001*** (0.001)	0.003 (0.151)	-0.002 (0.247)	-0.004 (0.354)
LOG_GDP	-0.007*** (0.001)	-0.009*** (0.000)	0.010*** (0.000)	0.029*** (0.000)
BIG5	-0.009** (0.021)	-0.025*** (0.004)	0.010*** (0.003)	0.045*** (0.000)
OFCINDEX*BIG5	0.021*** (0.000)	0.011*** (0.003)	0.017*** (0.000)	-0.017* (0.060)
CL	-0.070*** (0.000)	0.001 (0.907)	0.109*** (0.000)	0.193*** (0.000)
INVREC	-0.223*** (0.000)	0.008 (0.344)	0.161*** (0.000)	0.400*** (0.000)
DISTRESSED	0.033*** (0.000)	-0.003 (0.331)	-0.003 (0.419)	-0.040*** (0.000)
INDE	-0.002*** (0.000)	0.001*** (0.000)	0.001** (0.017)	0.000 (0.983)
SIZE	-0.008*** (0.000)	0.002*** (0.006)	0.014*** (0.000)	0.020*** (0.000)
MTB	0.001** (0.021)	0.011*** (0.000)	-0.013*** (0.000)	-0.025*** (0.000)
NETI	0.539*** (0.000)	-0.131*** (0.000)	-0.345*** (0.000)	-0.728*** (0.000)
OFFSHORE*SIZE	0.029*** (0.000)	-0.002 (0.143)	-0.026*** (0.000)	-0.065*** (0.000)
OFFSHORE*MTB	0.001*** (0.000)	0.001*** (0.000)	0.000* (0.071)	0.000 (0.876)
Industry Fixed Effects	Included	Included	Included	Included
Adjusted R <sup>2</sup>	0.103	0.050	0.091	0.095
No. of Observations	40,170	40,170	40,170	40,170

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

This table reports panel regression estimates with real earnings management measures (abnormal operation cash flows, abnormal discretionary expenses, abnormal production costs and the combined real earnings management) 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. 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. (H1) and (H2) refer to the first 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 (H1)		-0.346*** (0.000)	0.029 (0.200)	0.384*** (0.000)	0.846*** (0.000)
OFCINDEX	-0.418*** (0.000)	-0.039*** (0.000)	-0.096*** (0.000)	0.108*** (0.000)	0.249*** (0.000)
OFFSHORE*OFCINDEX (H2)		0.013*** (0.009)	0.027*** (0.000)	-0.067*** (0.000)	-0.115*** (0.000)
TAX	-13.153*** (0.000)	-0.001 (0.807)	0.002 (0.265)	-0.002 (0.438)	-0.003 (0.506)
LOG_GDP		-0.008*** (0.000)	-0.011*** (0.000)	0.013*** (0.000)	0.033*** (0.000)
LEVERAGE	-2.173*** (0.000)				
LEVERAGE*TAX	5.891*** (0.000)				
BIG5	0.718*** (0.000)	-0.009** (0.039)	-0.021*** (0.000)	0.005 (0.176)	0.037*** (0.000)
OFCINDEX*BIG5		0.021*** (0.000)	0.012*** (0.000)	0.016*** (0.000)	-0.018** (0.043)
CL		-0.070*** (0.000)	0.001 (0.956)	0.110*** (0.000)	0.194*** (0.000)
INVREC		-0.223*** (0.000)	0.007 (0.402)	0.162*** (0.000)	0.402*** (0.000)
DISTRESSED		0.033*** (0.000)	-0.003 (0.335)	-0.003 (0.413)	-0.040*** (0.000)
INDE		-0.002*** (0.000)	0.001*** (0.000)	-0.001** (0.027)	0.000 (0.885)
SIZE	0.144*** (0.000)	-0.008*** (0.000)	0.003*** (0.001)	0.013*** (0.000)	0.018*** (0.000)
MTB	0.047*** (0.000)	0.001** (0.026)	0.011*** (0.000)	-0.013*** (0.000)	-0.026*** (0.000)
NETI		0.539*** (0.000)	-0.131*** (0.000)	-0.345*** (0.000)	-0.729*** (0.000)
OFFSHORE*SIZE		0.029*** (0.000)	-0.001 (0.320)	-0.027*** (0.000)	-0.066*** (0.000)
OFFSHORE*MTB		0.001*** (0.000)	-0.001*** (0.000)	0.000* (0.074)	0.000 (0.886)
IMR		0.000 (0.952)	0.017*** (0.008)	-0.022*** (0.001)	-0.034** (0.028)
Industry Fixed Effects	Included	Included	Included	Included	Included
Adjusted or Pseudo R <sup>2</sup>		0.102	0.069	0.083	0.096
No. of Observations	40,170	40,170	40,170	40,170	40,170

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

This table reports panel regression estimates with accruals earnings management and real earnings management measures (the absolute abnormal accruals, abnormal operation cash flows, abnormal discretionary expenses, abnormal production costs and the combined real earnings management.) 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*** (0.000)	-0.262*** (0.001)	0.035 (0.409)	0.209*** (0.000)	0.295*** (0.005)
OFCINDEX	0.013 (0.893)	0.102** (0.012)	-0.041 (0.357)	-0.007 (0.690)	-0.118 (0.267)
TAX	0.794 (0.516)	1.087** (0.032)	0.314 (0.571)	-0.005 (0.993)	-0.941 (0.307)
LOG_GDP	0.002 (0.975)	-0.020 (0.640)	-0.013 (0.570)	-0.004 (0.883)	0.030 (0.586)
BIG5	-0.036 (0.270)	-0.005 (0.862)	-0.016 (0.138)	-0.006 (0.698)	0.021 (0.558)
OFCINDEX*BIG5	0.056 (0.410)	-0.054 (0.352)	0.011 (0.708)	0.010 (0.760)	0.052 (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*** (0.001)	0.043 (0.152)	-0.291*** (0.000)	-0.090 (0.218)
INVREC		-0.307*** (0.000)	-0.074*** (0.011)	0.247*** (0.000)	0.891*** (0.000)
DISTRESSED		0.123*** (0.000)	-0.040*** (0.001)	0.079*** (0.000)	0.054 (0.672)
INDE	0.007 (0.229)	-0.017*** (0.001)	0.003 (0.308)	0.011*** (0.000)	0.026*** (0.000)
SIZE	-0.068*** (0.000)	0.078*** (0.000)	-0.026*** (0.000)	-0.023*** (0.000)	-0.076*** (0.000)
MTB	0.001 (0.671)	0.002 (0.262)	0.002** (0.025)	-0.003*** (0.001)	-0.007*** (0.001)
NETI	-0.357*** (0.000)	0.227*** (0.000)	-0.105*** (0.000)	-0.216*** (0.000)	-0.165*** (0.000)
SOX*SIZE	0.047*** (0.000)	-0.015* (0.081)	0.008* (0.086)	-0.013*** (0.001)	-0.006 (0.585)
SOX*MTB	0.000 (0.832)	-0.003* (0.083)	-0.001 (0.265)	0.002* (0.052)	0.007*** (0.007)
Industry Fixed Effects	Included	Included	Included	Included	Included
Adjusted R <sup>2</sup>	0.105	0.134	0.057	0.113	0.095
No. of Observations	6,172	6,266	6,266	6,266	6,266

**Table VIII**

**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, the positive discretionary accruals, the abnormal operation cash flows, abnormal discretionary expenses, abnormal production costs and the combined real earnings management) as dependent variables. We 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. (H1) and (H2) refers to the first 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 (H1)	0.317*** (0.000)	0.411*** (0.000)	-0.401*** (0.000)	0.063** (0.017)	0.228*** (0.000)	0.729*** (0.000)
OFCINDEX	-0.077*** (0.000)	-0.043*** (0.000)	-0.040*** (0.000)	-0.073*** (0.000)	0.076*** (0.000)	0.194*** (0.000)
OFFSHORE*OFCINDEX (H2)	0.049*** (0.000)	0.023*** (0.002)	0.022*** (0.002)	0.016*** (0.005)	-0.044*** (0.000)	-0.095*** (0.002)
TAX	-0.010 (0.300)	-0.004 (0.805)	-0.001 (0.961)	-0.007 (0.710)	-0.002 (0.636)	0.005 (0.808)
LOG_GDP	-0.085*** (0.000)	-0.051*** (0.000)	-0.014** (0.046)	-0.038*** (0.001)	0.009*** (0.000)	0.061*** (0.000)
BIG5	-0.034* (0.069)	-0.004 (0.878)	-0.023 (0.245)	-0.095*** (0.004)	0.004 (0.528)	0.123*** (0.002)
OFCINDEX*BIG5	-0.045** (0.032)	-0.034 (0.211)	0.001 (0.964)	0.020 (0.576)	0.021*** (0.004)	0.000 (0.998)
USGAAP	0.018 (0.510)	0.005 (0.892)				
IFRS	-0.090*** (0.000)	-0.082*** (0.002)				
LITIGATE	-0.072** (0.017)	-0.080** (0.050)				
OFCINDEX*LITIGATE	0.056*** (0.000)	0.068** (0.015)				
CL			-0.045 (0.149)	0.098** (0.051)	0.005 (0.613)	-0.047 (0.432)
INVREC			-0.290*** (0.000)	-0.053 (0.492)	0.155*** (0.000)	0.498*** (0.000)
DISTRESSED			0.044** (0.025)	0.024 (0.450)	-0.022*** (0.001)	-0.090** (0.019)
INDE	-0.002 (0.462)	0.000 (0.865)	0.001 (0.566)	-0.000 (0.991)	0.000 (0.938)	-0.001 (0.786)
SIZE	-0.026*** (0.000)	-0.029*** (0.000)	-0.018*** (0.000)	0.063*** (0.000)	0.003* (0.074)	-0.042*** (0.000)
MTB	0.000 (0.223)	0.000 (0.362)	0.000 (0.591)	0.000 (0.942)	-0.000 (0.437)	-0.000 (0.642)
NETI	-0.054* (0.067)	0.112** (0.015)	0.205*** (0.000)	0.165*** (0.001)	-0.024** (0.021)	-0.394*** (0.000)
OFFSHORE*SIZE	-0.039*** (0.000)	-0.075*** (0.000)	0.071*** (0.000)	-0.031** (0.026)	-0.025*** (0.000)	-0.065*** (0.001)
OFFSHORE*MTB	0.007*** (0.000)	0.003 (0.271)	0.007*** (0.000)	-0.001 (0.656)	-0.000 (0.503)	-0.006** (0.029)
Industry Fixed Effects	Included	Included	Included	Included	Included	Included
Adjusted R <sup>2</sup>	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
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## Appendix A: Variables Definition and Data Sources

“DATA” refers to data item number in the Osiris database.  $\Delta$  refers to annual changes.

Variables	Definition	Data Sources
<b>Variables Used to Estimate Abnormal Accruals and Real Earnings Management</b>		
IBEI	Earnings before extraordinary items and discontinued operations = DATA13037-DATA13043.	Osiris
A	Total assets = DATA13077.	Osiris
Sales	Net sales = DATA13002.	Osiris
$\Delta$ Sales	Change in net sales = $\Delta$ DATA13002.	Osiris
REV	Total revenues = DATA13004.	Osiris
$\Delta$ REV	Change in total revenues = $\Delta$ DATA13004.	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+ $\Delta$ INV) = (DATA22199 + $\Delta$ DATA20010).	Osiris
CFO	Operating cash flow = MEV /DATA31085.	Osiris
ACCR	Total accruals = IBEI – CFO	
<b>Proxies for Accruals and Real Management</b>		
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

## Appendix A (Continued)

Variables	Definition	Data Sources
<b>Proxies for Accruals and Real Management</b>		
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
<b>Country Variables</b>		
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, respectively.	Masciandaro (2006)
LOG_GDP	Measure of economic development defined as the log of GDP.	IMF and CIA World Factbook
TAX	Corporate tax rate.	IMF and OECD

## Appendix A (Continued)

Variables	Definition	Data Sources
<b>Firm Variables</b>		
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
TYPE	Equal to 1 if a firm registers in OFCs, and 0 if a firm set up affiliates in OFCs.	Osiris
MTB	Market-to-book ratio = MEV / Total shareholders equity (DATA14041).	Osiris
BIG 5	Equals 1 if an offshore firm is audited by one of the Big 5 auditors, and 0 otherwise.	Osiris and firms' annual reports
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
NETI	Scaled net profit of current period = DATA 13045/ A <sub>it</sub> .	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 high litigation risk industries: 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
CL	Scaled current liabilities = DATA14011/ A <sub>it</sub> .	Osiris
INVREC	Scaled sum of inventories and receivables = (DADA13061+ DATA14011)/ A <sub>it</sub> .	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
LEVERAGE	The ratio of total liabilities to total assets = DATA14022/ DATA13077.	Osiris
<b>Other Variables</b>		
SOX	Equals 1 if the observation is related to the post-SOX period (after 2002), and 0 otherwise.	Osiris
INDUSTRY	Industry dummies. Industries are as defined as in the Osiris which groups industries into Energy, Materials, Industrial, Consumer Discretionary, Consumer Staples, Health Care, Financials, Information Technology, Telecommunication Services, and Utilities.	Osiris

## Appendix B: Institutional Background of OFCs

### A. Definition of OFCs

Although there is no “precise” definition of an OFC, it can be broadly defined as any financial center where offshore finance takes place. The International Monetary Fund (IMF) defines 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.”<sup>17</sup>

In terms of an academic definition, Zorome (2007) states that “an OFC is a country or jurisdiction that provides financial services to nonresidents on a scale that is incommensurate with the size and the financing of its domestic economy”, while Errico and Musalem (1999) and Park (1994) posit that an OFC provides a low-or zero-taxation scheme. In this study, we use the IMF’s definition of an OFC. 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.

### B. Specific Characteristics of OFCs

#### B.1 Taxation

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 companies in other OFCs around the world (William 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.<sup>18</sup> 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.

#### B.2 Loose regulations

Most OFCs currently promote themselves as regimes having "light but effective" regulation that generally only seek to regulate high-risk financial businesses, such as banking, insurance and mutual funds. In his book “Offshore: the dark side of the global economy”, William Brittain-Catlin describes the freedom of companies in the Cayman Islands. As he points, for a few hundred dollars, a company “can pretty well do what it wants, as long as it does it outside

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<sup>17</sup> IMF website: <http://www.internationalmonetaryfund.com>.

<sup>18</sup> Source: <http://www.oecd.org/dataoecd/9/61/2090192.pdf>.

Cayman (William Brittain-Catlin (2005)).” Masciandaro (2006) argues that there are gaps between the regulations of developed countries and those of OFCs. When policymakers design the regulatory framework of an OFC, they define the optimal degree of compliance maximizing the political cost benefit function of the OFC.<sup>19</sup> The loose legal regimes of OFCs lead some companies to pursue “regulatory arbitrage”.

### *B.3 Confidentiality*

Excessive secrecy is a specific 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. In addition, those wanting to obtain more information about offshore firms or their affiliates are only able to obtain the complete name, the registration state, and the file number of a particular firm, along with its status and company type. (William 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.

### *C. Practical Cases involving OFCs*

Enron and Parmalat are probably the most famous examples of misbehaved offshore firms.<sup>20</sup> 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 become 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 December 2, 2001, Enron filed for bankruptcy protection which at that time was 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 revealed that starting in 1994, Enron had created more than 850 offshore affiliates in various OFCs. Many of its offshore affiliates were found to have played a key role in hiding losses and concealing debt without any disclosure by off-balance sheet approach.

Another OFC-related financial scandal involved 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.<sup>21</sup> 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 are more traditional forms of fraud, such as the falsifying of sales figures. For example, its affiliate in the Cayman Islands, 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 Parmalat's debt to \$4 billion Euros in 2002, in addition to creating

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<sup>19</sup> *The Economist* February 22, 2007 Survey.

<sup>20</sup> Data source is from *The Wall Street Journal* and the SEC website, <http://www.sec.gov/news/>.

<sup>21</sup> 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.

big losses for its investors.