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# Operations in offshore financial centers and loan syndicate structure



Wenxia Ge<sup>a</sup>, Jeong-Bon Kim<sup>b</sup>, Tiemei Li<sup>c</sup>, Yutao Li<sup>d,\*</sup>

- <sup>a</sup> University of Manitoba, 181 Freedman Crescent, Winnipeg, MB, Canada R3T 5V4
- <sup>b</sup> University of Waterloo, 200 University Avenue West, Waterloo, Ontario, Canada N2L 3G1
- <sup>c</sup> University of Ottawa, 55 Laurier Avenue East, Ottawa ON, Canada K1N 6N5
- <sup>d</sup> University of Lethbridge, 4401 University Drive, Lethbridge, Alberta, Canada T1K 3M4

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#### ABSTRACT

This study examines whether a firm's subsidiary operations in offshore financial centers (OFCs) affect loan syndicate structure. We find that as borrowers engage more aggressively in operations in OFCs, lead lenders of a loan syndicate hold a larger percentage of loans to such firms and the number of lenders participating in a loan syndicate becomes smaller. This finding is robust to various robustness tests including propensity score matching analysis and quasi-natural experiment. Furthermore, we find that lead lender reputation and prior lending relationship with the borrower can attenuate the positive relation between OFC operations and loan syndicate concentration.

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#### 1. Introduction

In recent years, many companies have established subsidiary operations in Offshore Financial Centers (OFCs) <sup>1</sup> to take advantage of favorable tax rates, flexible regulations, and secrecy policies in OFCs. By 2013, the profits reported in OFCs by U.S. corporations have increased by about 10 times since the 1980s (Zucman, 2014). On the one hand, the low tax rates and flexible regulation in OFCs afford multinational firms higher after-tax profits and flexibility in conducting legitimate businesses activities (IMF, 2000). On the other hand, the low tax rates, flexible regulation, and secrecy policies in OFCs make it easier for multinational firms to create tax-motivated organizational structures or design tax-motivated transactions to mask such activities (Gordon and MacKie-Mason, 1995; Haufler and Schjelderup, 2000). In this study, we examine whether and how firms' subsidiary operations in OFCs affect the loan syndicate structure.

<sup>\*</sup> Corresponding author.

E-mail addresses: wenxia.ge@umanitoba.ca (W. Ge), jb6kim@uwaterloo.ca (J. Kim), tmsl@telfer.uottawa.ca (T. Li), yutao.li@uleth.ca (Y. Li).

<sup>&</sup>lt;sup>1</sup> In this study, we follow Zorome's (2007, p. 7) definition of an OFC as "a country or jurisdiction that provides financial services to non-residents on a scale that is incommensurate with the size and the financing of its domestic economy". Based on this definition, we identified the world's 26 primary OFCs using the Osiris database (Appendix A). The Zoromé (2007) definition is also consistent with the International Monetary Fund's (International Monetary Fund, 2000) definition of OFCs. The IMF defines OFCs as "(i) jurisdictions that have relatively large numbers of financial institutions engaged primarily in business with non-residents; (ii) (jurisdictions with) financial systems with external assets and liabilities out of proportion to domestic financial intermediation designed to finance domestic economies; and (iii) 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". (Offshore financial centers IMF background paper available at: http://www.imf.org/external/np/mae/oshore/2000/eng/back.htm).

We focus on the syndicated loan market for two main reasons. First, syndicated loans are a major source of corporate external financing around the world (Ball et al., 2008; Sufi, 2007). According to Chui et al. (2010), in 2009, while non-financial firms borrowed \$1.5 trillion in international bond markets, these firms borrowed \$1.8 trillion in the syndicated loan market. Therefore, it is important to understand the consequences of firms' OFC operations on the private debt market. Second, while extant literature on international financing mainly focuses on the agency costs of multinational diversification and the benefits of international activities (e.g., Chen et al., 1997; Gande et al., 2009; Lee and Kwok, 1988; Li et al., 2011; Mansi and Reeb, 2002; Park et al., 2013), it is not clear whether the location of the international subsidiaries has an impact on financial contracting.

Different from public bonds, which have dispersed ownership and no delegated monitors (Diamond, 1991), syndicated loans are loans jointly funded by lead and participant lenders, with the lead lenders carrying the duty of pre-contract screening and post-contract monitoring and renegotiation. The principal and agent relationship between the lead and participant lenders may engender a moral hazard problem. In addition, lead lenders, responsible for collecting information about potential borrowers' credit quality and negotiating loan terms with them, have more information about borrowers than participant lenders. As a result, the adverse selection problem may arise between lead lenders and participant lenders when lead lenders sell or underwrite part of these negotiated loans to participant lenders (Sufi, 2007; Kim and Song, 2011).

In our context, OFC operations can induce severe information asymmetry between lead and participant lenders, and therefore affect financial arrangements between these two types of lenders. Specifically, tax-motivated transactions, secrecy policies, and lax regulations in OFCs engender information opacity and allow managers to engage in opportunistic and self-dealing activities more easily (e.g., Desai et al., 2007; Durnev et al., 2013; Kim et al., 2011). When the information asymmetry is high and lead lenders' actions are not observable by participant lenders, lead lenders have incentives to shirk their monitoring efforts or sell participant lenders poor quality loans. To alleviate the moral hazard and adverse selection problems associated with the information asymmetry, lead lenders will form a more concentrated loan syndicate to convey a credible signal about the quality of the loans and/or their commitment to monitoring borrowers (Holmstrom, 1979; Holmstrom and Tirole, 1997). Accordingly, we predict that lead lenders retain a higher percentage of syndicated loans to borrowers with OFC operations than to borrowers without OFC operations. On the other hand, the higher credit risk associated with the opaqueness of OFC operations and the difficulty in monitoring managerial self-dealing activities in OFCs (Ge et al., 2016) may incentivize the lead lender(s) to diversify the risk and hold a smaller percentage of loan ownership. As a result, lenders in general are likely to form a more diffused syndicate structure to curb borrowing firms' incentives to strategically default on loans (Gertner and Scharfstein, 1991; Bolton and Scharfstein, 1996; Esty and Megginson, 2003; Qian and Strahan, 2007). Therefore, the net effect of OFC operations on loan syndicate structure remains an empirical question.

To examine the effect of OFC operations on loan syndicate structure, we obtain a sample of 11,824 loan facilities offered to 1,958 firms from 41 countries with subsidiaries in OFCs and 21,192 loan facilities offered to 4,164 firms from 49 countries without OFC subsidiaries for the period 1996–2015.<sup>2</sup> We use three different constructs to capture the extent of a firm's involvement in OFC operations: (i) an indicator for the presence of at least one subsidiary located in an OFC; (ii) the ratio of OFC subsidiaries to the total number of subsidiaries; and (iii) the weighted average of the OFC attitude indices for the host countries of subsidiaries. We use three measures of loan syndicate concentration: (i) the Herfindahl loan concentration index for lenders' share within a loan syndicate; (ii) the percentage of loan ownership retained by lead lenders; and (iii) the number of lenders in a loan syndicate.

To control for time-invariant unobservable (and thus omitted) factors that could affect both OFC decisions and loan syndicate structure, we use a firm fixed-effects model for evaluating the effect of OFC operations on loan syndicate structure. The empirical results reveal that the loan syndicate structure becomes more concentrated when a borrowing firm engages more aggressively in OFC operations. Specifically, we find that for all three measures of OFC operations, as the extent of OFC operations becomes more intense, the loan structure becomes more concentrated with lead lenders as reflected in greater loan concentration index, higher percentage of syndicated loan ownership retained by lead lenders and smaller number of lenders participating in a loan syndicate. These findings are consistent with the prediction that OFC operations, which increase the information asymmetry between the lead and participant lenders, engender a more concentrated loan syndicate. Our results are robust to a battery of robustness checks, including propensity score matching approach to control for the observable differences between firms with OFC operations and those without and the Heckman two-stage selection model to address potential self-selection bias and endogeneity associated therewith.

We also employ a quasi-natural experiment to address the concern of the spurious relation between OFC operations and loan syndicate structure. We identify the year when a firm changes its status from a non-OFC to an OFC firm and compare loan syndicate concentration before and after such a transition. We find that loan syndicates become more concentrated in the post-transition period than in the pre-transition period. The results from this quasi-natural experiment lend further credence to the view that forming a more concentrated loan syndicate could be a natural response to the presence of OFC operations.<sup>3</sup>

We then conduct cross-sectional analyses to examine whether the reputation of lead lenders and their prior lending relationships with the borrower can mitigate the need to form a more concentrated syndicate for loans to firms with OFC operations. We find that the positive association between OFC operations and loan syndicate concentration becomes weaker (less positive) when lead lenders are reputable than when they are non-reputable. We find weak evidence that the loan syndicate is less concentrated when

<sup>&</sup>lt;sup>2</sup> The total number of firms in our full sample is 5,002 (Table 2) rather than the sum of the number of firms with OFC operations (1,958) and firms without OFC operations (4,164). This is because some firms established or closed OFC subsidiaries during our sample period so that when firms initiated loans before they established OFC subsidiaries, these loan facilities are classified as "loan facilities to firms without OFC subsidiaries" and these firms are labeled as Non-OFC firms. When the same firms borrowed after they established OFC subsidiaries, these loans are classified as "loan facilities to firms with OFC subsidiaries" and the same firms are labeled as OFC firms. This classification approach also applies to firms that closed their OFC subsidiaries during our sample period.

<sup>&</sup>lt;sup>3</sup> We acknowledge the limitation of this quasi-natural experiment, that is, a firm's decision to set up an OFC subsidiary could be a response to the anticipation of more concentrated loan syndicate due to time-varying unobservable factors. We thank the anonymous referee for this insight.

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