



Interest-rate Swaps: Hedge or Bet? A Case of Canadian Universities

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Introduction

A swap agreement is a financial arrangement wherein two counterparties agree to exchange cash flows over a period on a pre-arranged basis. In an interest rate swap the exchange is between interest cash flows based on a fixed rate and those that are determined based on a variable rate. Thus one party will agree to pay a fixed interest rate on a notional principal for a certain period in exchange for receiving interest cash flows based on a variable interest rate set periodically. The variable interest rate is determined with reference to an agreed upon index. Typically the variable rates will be a certain percentage above the interbank lending rates such as LIBOR. In the international context interest rate swaps are often a combination of interest rate and currency swaps. In a currency and interest rate swap fixed interest cash flows on a nominal principal denominated in one currency will be exchanged for floating rate interest cash flows in another currency. In this paper our focus is on interest

rate swaps in a domestic context only.

Interest rate swaps are increasingly being used as a risk management tool. If a firm borrows on a variable interest rate it is exposed to the risk of changing interest rates in the future. To mitigate this risk the firm may enter into a swap contract wherein it will pay fixed interest on a notional principal to the swap dealer and, in turn, receive variable interest cash flows from the dealer. This effectively protects the firm from changing interest rates. When the variable interest declines the firm's cash outflow of interest on the borrowing will be less and so will be the receipts from the swap dealer. When the variable interest goes up the increased borrowing cost will be offset by the increased receipts from the swap dealer.

Though it is possible to manage the interest rate risk through other exchange traded derivatives like interest futures and options, an interest rate swap has the advantage of customization. The disadvantage is that, unlike

exchange traded futures or options, terminating a swap may not be a simple process and can be costly. Although long common in the corporate sector, the use of interest rate swaps among non-financial public institutions, including universities, has increased in the past decade. Given the nature of cash flows and short term assets that are typically carried by universities it is not clear whether interest rate swaps are true hedges or un-hedge an existing natural hedge and create risk. Recently, for example, Harvard University lost US\$345.3 million in terminating its interest-rate swaps. (Lauerman and McDonald, 2009) It is the purpose of this paper to study the use of interest-rate swaps in a sample of Canadian universities and investigate whether they are true hedges or actually increase a university's financial risk. An attempt will be made using management control, organizational design concepts, and accounting theory to explain the prevalence of interest rate swaps among Canadian universities. The paper will be organized as follows: the next section will identify the arguments for the use of interest rate swaps as a hedge measure in the corporate sector. The third section will present a case study of the University of New Brunswick to demonstrate the risk created by the swaps followed by a section providing an empirical analysis on the nature and extent of interest rate swap use among comparable universities in the Canadian context. The penultimate section will provide plausible explanations for the observed behaviour followed by a concluding section.

Rationale for a Swap

The interest rate derivative market has grown in volume over the years. The notional amount of interest rate derivatives outstanding was \$434.1 trillion at mid-year in 2010 compared to \$201.4 trillion at mid-year in 2005 according to the ISDA Market Survey.¹ The use of interest rate swaps in the corporate sector has been studied extensively. A study of 500 big firms surmises that hedging is the motivation for swaps (Visvanathan, 1988). Smith and Stulz (1985) indicate that the motivation to hedge may be to reduce variability of earnings and thus protect the firm from distress and to lower taxes. Other motivations to hedge include matching cash flows (Titman, 1992, Froot, Scharfstein and Stein, 1993) and reducing the volatility of executive compensation (DeMarzo and Duffie, 1995). Several authors have attributed a motive for using derivatives to speculation, rather than hedging, on the interest rate changes (Geczy, Minton and Schrand, 2007). Characteristics of firms engaging in a swap for hedging or speculation has been examined by Chernenko and Faulkender (2011), concluding that persistent use of swaps indicates a hedging motive while transient use indicates a speculative play. Of the two motives, hedging is clearly more prevalent (Allen, Kim and Zitzer, 2012). Kiff, Ron and Ebrahim (2000) discuss the use of interest swap by the Federal Government of Canada. Vickery (2008) examines interest rate risk management in small firms. No discussion appears in the literature dealing with interest rate swap usage in the not-for-profit or university sectors.

Even though hedging as a rationale is appealing, it does not explain the rationale for creating a situation in the first instance that needs to be hedged. For example, a firm that borrows on variable interest can eliminate the risk of changing interest rates by entering into a swap to pay fixed and receive variable cash flow. However, it can easily borrow on a fixed rate to start with in which case there is no risk to hedge. Two kinds of arguments

are advanced for borrowing on a variable rate and hedging. The first one is that of access. Syndicated loans are largely on floating rate basis to facilitate prepayment without penalty (Taylor and Sansone, 2006). Commercial bankers also by and large prefer floating rate loans (Vickery, 2006). This makes a swap necessary for those borrowers who prefer fixed rates. Another explanation is provided by the comparative cost argument which suggests that the borrower may have a comparative advantage in a floating rate even though it prefers a fixed rate. In such cases, the borrower identifies a counterparty that has a comparative advantage in a fixed rate and enters into the swap to exchange the respective cash flows. Here the motivation is reduction of cost rather than reducing risk. As a matter of fact, the reduced cost may come with some additional risk if the counter party's credit rating is inferior to that of the firm.

Thus borrowing using one type of loan and hedging with an interest rate swap has to be justified on the grounds of either lack of access and/or comparative disadvantage in the preferred type of loan. In the absence of these reasons, the interest rate swap may turn out to be a bet on the direction of interest rate changes which increase the financial risk to the firm. As we have indicated, most of these arguments are applicable for business organizations. Recently publicly funded universities have started using interest rate swaps.² As the public funding proportion of the university funding started shrinking over the past decade, universities have resorted to commercial borrowing for construction and renovation of residences and other buildings. It is the purpose of this study to examine the validity of the rationale for the use of interest rate hedges by publicly funded universities in Canada.

Prevalence of Swaps in Canadian Universities

Canadian universities, with very few exceptions, have been primarily funded through provincial government grants. These public funds are supplemented by tuition fees and private sector donations. Until recently, these revenue streams have been sufficient to fund operations, capital projects and infrastructure renewal. As such, long term borrowing was not part of the necessary financial management practices of these institutions. Financing arrangements beyond government grants focussed on short term borrowing and payables management. As seen across the sector in multiple jurisdictions, Canadian provincial governments began reducing the growth in public funding to universities in the face of other budget priorities and budget deficit management.³

In order to deal with declining government grants (as a proportion of total revenue) Canadian universities looked to other means of revenue generation such as developing and leasing crown lands, building hotel type of accommodation for executive programs and international partnerships to name a few of the more notable initiatives. These were usually accompanied by aggressive cost cutting within the operating budgets which affected the delivery of the academic mission. Although gradual, universities' core missions have shifted from predominantly academic delivery to a higher focus on peripheral operations including the management of real properties. The implications associated with this trend are documented in the European context in Engelen, Fernandez and Hendrikse (2014).

| Institution | Swap Value | Total Debt | % Under Swap |
|---|------------|------------|--------------|
| University of Saskatchewan | \$140,254 | \$199,854 | 70.2% |
| University of Waterloo | 20,343 | 26,542 | 76.6% |
| University of Guelph | 121,201 | 242,205 | 50.0% |
| Dalhousie University | 136,686 | 146,571 | 93.3% |
| Concordia University | 28,823 | 556,424 | 5.2% |
| Carleton University | 103,573 | 104,777 | 98.9% |
| Queen's University | 0 | 221,074 | 0.0% |
| Memorial University | 13,748 | 18,258 | 75.3% |
| McMaster University | 17,901 | 138,371 | 12.9% |
| University of Manitoba | 34,011 | 365,678 | 9.3% |
| University of Victoria | 8,242 | 45,909 | 18.0% |
| University of New Brunswick | 26,058 | 26,182 | 99.5% |
| University of Regina | 68,731 | 69,849 | 98.4% |
| Simon Fraser University | 0 | 151,692 | 0.0% |
| York University | 0 | 303,902 | 0.0% |
| Wilfred Laurier University | 75,436 | 185,463 | 40.7% |
| Ryerson University | 226,324 | 234,574 | 96.5% |
| Brock University | 27,550 | 138,102 | 19.9% |
| Note 1 - Total debt is calculated by combining current debt under swap, current portions of LTD, Swap FVs and Long term debt. Non-interest rate swaps FVs are not included nor are employee future benefits, capital lease obligations, AROs or others. | | | |

Exhibit 1: Total Long Term Debt Vs Notional Value of Swaps, Years Ended 2013 (CDN\$ thousands)

Source: Author's calculations

Some of these developments changed the role of financial managers. Rather than mere budget preparers, financial statement assemblers and working capital managers they became responsible for managing the capital structure of the institutions and, by extension, risk managers. Consistent with increasing corporatism within the public sector (Mintzberg, 1996), these changes brought financial managers of universities increased power and status within their respective institutions and vaulted them to the role of key players in strategic decision making. Additionally, the Canadian Association of University Business Officers (CAUBO) in their debt management guideline published in 2004 discussed the role of interest rate swaps.⁴ By the time of this publication, it appears that quite a number of universities were already borrowing for the construction of student residences providing what was perceived as an opportunity to manage risk through an interest rate swap hedge.

To develop our sample we began with the classification scheme used by MacLean's magazine, a weekly Canadian news periodical that performs annual rankings of Canadian universities.⁵ Universities are classified into three different categories - large universities with medical schools, mid-size comprehensive universities with a wide variety of graduate offerings and small universities with a primarily undergraduate focus. This study focuses on the comprehensive universities group that contains fifteen universities across Canada. To this we added universities not included in the MacLean's list but are used a part of a comparison group of schools for collective bargaining purposes

at the authors' home institution, agreed to by management and the faculty association due to similarities in size, offerings, and as acting as direct competition. This increased the sample size to eighteen.

Exhibit 1 provides the level of borrowing and the use of interest rate swaps at these comprehensive universities. Fifteen of the eighteen universities in the sample had swaps outstanding at the end of fiscal year 2013 and on average the swap accounted for 57.6% of the borrowing. Even those that did not have any swap balances at the end of fiscal 2013 have had outstanding balances in prior years. Our examination across years reveals that swap use has increased significantly post 2004. All institutions, with one exception, used swaps that converted variable rate (VR) borrowing to a fixed rate (FR). The one institution that converted a fixed rate to variable rate wound up its position in fiscal 2012.⁶ This establishes the significant presence of swap deals in the university sector in Canada. To understand whether the arguments favouring a swap in the corporate sector are valid for universities we provide below an in depth case study of University of New Brunswick (UNB) and then compare that with the rest of the sample.

Case Study of University of New Brunswick (UNB)

University of New Brunswick is a provincial mid-size university with two campuses; one in Fredericton and one in Saint John, New Brunswick, Canada. UNB is one of fifteen comprehensive universities as per McLean's classification and is the only one

within the Maritime Provinces of Canada, which encompasses Nova Scotia, Prince Edward Island and New Brunswick, falling in that category.⁷ The 2013 financial statements indicate revenue of over \$300 million and assets excluding land of over \$600 million.⁸ Being the representative of the Maritime region of Canada in the category of comprehensive universities, the size, and the access to information for the authors render UNB a good candidate for the illustrative analysis.⁹

The details of mortgages and bank loans of UNB for the year ended April 30, 2013 are provided in Exhibit 2. As observed, there are six different bank loan contracts with varying maturity. All loans have been borrowed on a variable interest rate. The rate is the Canada Banker's Acceptance (BA), Canadian Dealer Offered Rate (CDOR). The reported interest rate in Table 2 is the fixed swap rate in a VRFR swap. Detailed disclosure for mortgages and bank loans, including the terms of the variable rate, can be found in Appendix A.

Ability to borrow at BA, CDOR certainly indicates an excellent credit standing and the competitive advantage of UNB in the financing market. However, whether UNB has a comparative advantage to make the swap worthwhile depends on the counterparty. In our analysis, we observe that for each of the loans, the counterparty is the bank from which the variable interest loan has been obtained (see Appendix A). In other words, by not involving a third party, the university has borrowed and swapped with the same bank. This eliminates one of the rationales for entering into a swap arrangement, namely access. The university could have borrowed on a fixed interest rate directly without entering a swap. The presence of a swap for all

non-mortgage borrowings indicates that UNB prefers the fixed rate option. Additionally, if the bank is willing to accept UNB as counterparty in a swap, there is no reason to believe it would not lend to UNB at the same fixed rate. Furthermore, UNB's balance sheet indicates fixed rate loans and fixed rate mortgages outstanding from past periods. Clearly, the rationale for the swap cannot be lack of access. The large chartered banks that lend to the university are the ones that are entering into a swap in each of the deals.

The university could not gain on the effective borrowing cost either. If anything, the swap arrangement will have some additional transaction costs and, with the bank being the swap dealer, it is highly unlikely that the interest cost to UNB would be lower than the direct borrowing.

This brings us to the third rationale of income and cash flow hedging. An examination of the institution's assets reveals several key points. The university carried over \$100 million in cash and cash equivalents against \$26 million of loans, all of which were initially contracted with a variable rate, as reported in the 30 April 2013 audited consolidated financial statements. An effective hedge against interest rate risk on the interest cash outflows would require a corresponding cash inflow dependent on variable interest rates. The existence of the large cash and cash equivalents balance would presume¹⁰ interest income based on short term variable interest rates. This situation provides the university with a natural hedge. Further, the ratio of cash and cash equivalents to loans make this a completely effective hedge.

By entering into a swap, the university negated this natural hedge position and introduced new interest rate risk. Without the swap,

| Table 2 - Long-term Debt Structure of UNB at April 30, 2013 | | | | | | |
|---|---------------|---------------|-----------------|-----------------|-----------------|--|
| Comparable figures for 2012 and 2011 | | | | | | |
| (\$Cdn in thousands) | | | | | | |
| | | | 2013 | 2012 | 2011 | |
| Mortgages payable | | | \$124 | \$255 | \$380 | |
| Bank Loans | | | 26,058 | 27,695 | 21,550 | |
| Total Long Term Debt | | | \$26,182 | \$27,950 | \$21,930 | |
| Mortgages | | | | | | |
| | Interest Rate | Maturity Date | | | | |
| | 5.38% | 2013 | \$0 | \$100 | \$195 | |
| | 5.38% | 2016 | 124 | 155 | 185 | |
| Total Mortgages | | | \$124 | \$255 | \$380 | |
| Bank Loans | | | | | | |
| Residence Improvements | 6.64% | 2013 | \$0 | \$414 | \$962 | |
| Residence Buildings | 6.45% | 2020 | 1,045 | 1,159 | 1,267 | |
| Residence Buildings | 6.50% | 2022 | 741 | 801 | 857 | |
| Residence Buildings | 6.45% | 2028 | 3,887 | 4,035 | 4,174 | |
| Residence Buildings | 5.34% | 2031 | 6,879 | 7,100 | 7,310 | |
| Academic Buildings | 5.10% | 2030 | 6,502 | 6,756 | 6,980 | |
| Health and Wellness Facility | 2.64% | 2027 | 7,004 | 7,430 | 0 | |
| Total Bank Loans | | | \$26,058 | \$27,695 | \$21,550 | |

Exhibit 2: Long Term Debt Structure of UNB at April 30, 2013, Comparable figures for 2012 and 2011

Source: Author's calculations

if the short term interest rates were to go down, the university would lose on investment income but would reap interest savings on the loans. If the variable interest rate was to increase, there would, of course, be additional interest costs on the loans but this would be offset by gains in interest income on investments. With the swap converting the variable rate to a fixed rate, this desirable situation is fundamentally altered. With the swap in place, any decline in interest rates will still result in lower interest income, but now will also result in a loss on the swap as the university will still have to pay the fixed rate. The university can only benefit in an increasing interest rate environment. In essence the university has made a bet on which direction interest rates will move and introduced the inherent risk associated with speculation. As it turned out variable interest rates decreased and the university reported a loss on the swap and also reduced investment income. Having demonstrated the swap behaviour with an illustrative case, our next step is to study the same in comparable universities.

In our analysis of the financial statements of other comparable universities we did not get direct statements on the counterparties. However an examination of the notes disclosed that the lenders and the swap counterparties belonged to the same set of chartered banks in a number of instances. This is not surprising as the Canadian banking industry is highly concentrated and five major banks account for a significant percentage of the Canadian market share. Additionally, every university in our sample has loan dealings with more than one institution, indicating that there is no lack of access to fixed term borrowing. The universities owed the chartered banks fixed term commitments through a swap deal that would be no different from a fixed rate commitment in a loan. Thus the argument

of access of funds that motivates the corporate sector for swap deals does not seem to be substantiated in the university sector. Furthermore, given that the universities were dealing with the very same bank as counterparties, it is highly unlikely that the cost of borrowing would be higher if they were to simply borrow on a fixed interest rate as it was in the UNB case. Swaps are more likely to increase the transaction cost as banks in Canada generally levy a separate stamping fee for banker's acceptances that form an integral part of all swap deals.

The third argument of an operational hedge also does not explain the use of swaps. Of the fifteen universities that had swaps outstanding ten had cash and short term investment in excess of the swap value indicating they had fully effective natural hedge without the swap deal as indicated in Exhibit 3. The average cash and short term investment was more than four times the swap value. This clearly negates the cash flow hedge argument for borrowing variable rate and swapping with fixed rate. By entering into a swap when the cash balances are high in effect creates risk rather than hedging risk, consistent with our illustrative case. Additionally, the key characteristics of for-profit organizations that enter into VRFR swaps are not present within the university sector. In the corporate sector VRFR swappers tend to have lower credit ratings and high leverage ratios (Balsam and Kim, 2001, Li and Mao, 2003, Beatty, Petacchi and Zhang, 2012). Our analysis in Exhibit 3 examines these ratios and reveals exactly the opposite. Universities tend to have good to excellent credits ratings and generally are not highly leveraged further supporting the position that swaps in this sector result in speculative risk rather than providing an effective risk management tool.

| Table 3 - Total Long Term Debt Vs Notional Value of Swaps | | | | | | | | |
|---|-------------------------|---------------------------|-----------------|-------------|-----------|-------------|-------------------------|------------------------------|
| Years Ended 2013 | | | | | | | | |
| (Cdn \$ thousands) | | | | | | | | |
| Institution | Cash and Equivalents | Short Term Investments | Total Assets | LTD | D/A Ratio | Swap | Swap % of Total Debt | Cash and STI as % of Swap |
| University of Saskatchewan | \$33,496 | \$0 | \$2,371,957 | \$199,854 | 8.4% | \$140,254 | 70.2% | 23.88% |
| University of Waterloo | 259,678 | 91,646 | 1,618,899 | 26,542 | 1.6% | 20,343 | 76.6% | 1727.00% |
| University of Guelph | 199,589 | 56,010 | 1,618,509 | 242,205 | 15.0% | 121,201 | 50.0% | 210.89% |
| Dalhousie University | 170,376 | 0 | 1,558,273 | 146,571 | 9.4% | 136,686 | 93.3% | 124.65% |
| Concordia University | 474 | 45 | 954,549 | 556,424 | 58.3% | 28,823 | 5.2% | 1.80% |
| Carleton University | 253,770 | 0 | 1,053,860 | 104,777 | 9.9% | 103,573 | 98.9% | 245.02% |
| Queen's University | 46,797 | 0 | 1,856,909 | 221,074 | 11.9% | 0 | 0.0% | N/A |
| Memorial University | 13,528 | 110,429 | 678,016 | 18,258 | 2.7% | 13,748 | 75.3% | 901.64% |
| McMaster University | 156,914 | 0 | 2,133,904 | 138,371 | 6.5% | 17,901 | 12.9% | 876.57% |
| University of Manitoba | 117,603 | 0 | 1,952,319 | 365,678 | 18.7% | 34,011 | 9.3% | 345.78% |
| University of Victoria | 107,506 | 0 | 1,256,260 | 45,909 | 3.7% | 8,242 | 18.0% | 1304.37% |
| Unviersty of New Brunswick | 120,089 | 0 | 614,917 | 26,182 | 4.3% | 26,058 | 99.5% | 460.85% |
| University of Regina | 3,495 | 11,818 | 364,819 | 69,849 | 19.1% | 68,731 | 98.4% | 22.28% |
| Simon Fraser University | 36,769 | 0 | 1,444,932 | 151,692 | 10.5% | 0 | 0.0% | N/A |
| York University | 35,301 | 0 | 2,135,670 | 303,902 | 14.2% | 0 | 0.0% | N/A |
| Wilfred Laurier University | 70,280 | 0 | 615,527 | 185,463 | 30.1% | 75,436 | 40.7% | 93.17% |
| Ryerson University | 130,911 | 0 | 1,390,330 | 234,574 | 16.9% | 226,324 | 96.5% | 57.84% |
| Brock University | 35,652 | 0 | 501,416 | 138,102 | 27.5% | 27,550 | 19.9% | 129.41% |
| Totals | \$1,792,228 | \$269,948 | \$24,121,066 | \$3,175,427 | | \$1,048,881 | | 196.61% |

Short Term Investments includes short term maturity bonds and GICS not included as cash equivalent.

Exhibit 3: Total Long Term Debt Vs Notional Value of Swaps

Source: Author's calculatons

The data clearly indicates that the access, cost or hedge arguments that are considered the reasons for interest rate swap in the corporate world are not supported in the Canadian university environment.

Other Explanations

As the usual explanations for entering into interest rate swap arrangements described in the literature, as it relates to for-profit companies, do not appear to apply in publically funded universities in Canada, rationales for such widespread adoption must be sought in other areas such as organizational pressures and reporting requirements. In this section we will explore some potential reasons that may be in force. A common thread through these potentials causes is that they all represent bounded rational reasons for entering into the swap arrangements. By extension, they have a much higher potential to create risk for the organization rather than mitigating risk. This section identifies certain structural features that may facilitate risk taking behaviour.

a) Asymmetric incentive structures and accounting processes

In most Canadian universities the organization design is functionally and mechanically structured. In spite of a contractual requirement for collegial management, there are very few mechanisms in place to enhance inter-departmental cooperation and planning. Even departments within academic faculties tend to be isolated from their colleagues in related areas. In the administrative areas of these institutions, finance tends to be rather set apart from the other administrative areas. Even within the financial function, responsibilities for treasury, budgets, risk management and reporting are often quite separate, usually not even reporting to a common senior executive. In such cases, individual departments may pursue their own agendas with little regard for the impact of their decisions on other components of the organization. Certainly in the UNB example described above, the treasury function and the risk management team seem to be working in isolation. The risk management team appears to be ignorant of or ignores the presence of the natural hedge. Such behaviour may be facilitated by asymmetric incentives. If the bet were to work in their favour both departments may claim rewards for better performance due solely to each departments' own decision making. On the other hand, any loss may be easily explained away by market factors beyond their respective control. Both departments could escape any associated negative performance implications. This silo effect creates an incentive for either or both departments to assume higher than normal risks as upward performance is likely to be rewarded and downside performance will have no negative consequences. This will be even more the case when the swap is presented as a risk mitigating arrangement.

In the Canadian landscape of publically funded universities, almost all use fund accounting for internal purposes. Multiple funds are established in addition to that which deals with the day to day operations of the institution. These funds invariably are set up with numerous restrictions, either externally imposed or internally decided, on the use of monies added to or generated within the fund. As such they are a convenient place for shifting excess funds from operations. As interest rate swaps are typically

tied to long term debt associated with capital projects, the gains or losses associated with the swap can be carried through the institution's capital fund thereby relieving the institution or individuals from the immediate burden of explaining the logic of the swap. Even further, fund accounting allows for any downsides to be somewhat shielded from scrutiny. With fund accounting creating higher levels of segregation of accounts and events rather than aggregating items for a complete view of the institutions' overall financial position, negative and positive outcomes can be easily compartmentalized. Again, this facilitates risk taking behaviour.

b) Derivative unfamiliarity and herd behaviour

It must be acknowledged that management of any complex organization is a challenging task. As society and organizational interactions become more complex higher level skill sets required throughout an organization become more and more necessary. Financial administrators must be able to go beyond cursory examinations of accounts, management of investment portfolios and administrative practices. Complex skill sets that can effectively address these areas in a fast paced dynamic environment are in ever increasing demand and are commanding an ever increasing price for access. This calls into question whether financial administrators in the university sector have the necessary tools to deal with complex financial instruments such as interest rate swaps.¹² The choice to incorporate these tools into an institution's financial management strategy may be less motivated by a clear understanding of the underlying mechanisms of these tools than by a desire to be seen as operating on the cutting edge of financial management. The creeping corporatism that appears to be affecting higher educational institutions worldwide may also be a contributing factor. (Engelen, Fernandez and Hendrikse, 2014) Administrators in Canadian institutions have long relied on "expert" advisors for assistance in certain areas of financial management, particularly in investment strategies and risk management. It is clear from the literature that little is known of how derivative tools such as swaps are used or whether they are particularly effective in managing risk in the not-for-profit sector. If the swap is intended as a speculative play, and the evidence from Canadian universities indicates this is not their stated purpose, the question must be asked whether this is an appropriate use of public funds held in trust.

Further, public universities appear obsessed by "best practices" management. While analysis of the practices of competing organizations can yield useful information for decision making, blind acceptance can lead to herd behaviour. If one institution is engaging in interest rate swaps, then they must be useful tools therefore must be adopted. This sort of mentality may be compounded by umbrella associations that advocate certain practices with little consideration for the unique institutional conditions of the individual organization.¹³

These elements may also be conditioned and informed by organizational behaviour motives. The creeping corporatization of public institutions generally, and universities specifically, has led to ever increasing levels of managerialism in Canadian university administration and an increasing dominance of the financial departments in operational decision making. (Mintzberg, 1996) The utilization of complex financial derivatives may be viewed as an enhancement to an individual manager's power and status

within the organization. Power is derived from the possession of arcane knowledge. This preoccupation may cloud rational evaluation of the efficacy of the instrument itself.

c) Earnings Management/Accounting Standards

There are a number of financial reporting alternatives available to the publically funded university in Canada. Running the range from adopting IFRS, special not-for-profit GAAP available in Canada, public sector accounting rules or specific reporting requirements laid down by legislation, each have slightly different reporting requirements regarding interest rate swaps. While detailed discussion of the variations among these standards is beyond the scope of this article it is possible that the adoption of swap arrangements may be motivated by the required reporting for derivatives and long term debt.¹⁴

Connected with a motivation for swap adoption driven by accounting standard considerations is a motivation on the part of university administrators to engage in earnings management. Examination of financial statements across the university sector in Canada does indicate that there is already a high level of discretion exercised in how operating results are reported. Operating funds consistently show small accumulated surpluses or deficits while aggregate surpluses appear to be spread out amongst non-operating funds. Derivative usage may provide further opportunities for increased levels of financial manipulation under the cover of accounting policy choices.

Conclusion

In this paper we have sought to identify the reasons behind the widespread adoption of interest rate swaps by publically funded universities in Canada. We began from the premise that the adoption of such derivatives must be driven by hedging or speculative motives. We explored the motivations and characteristics of for-profit companies that utilized swaps for hedging purposes and found that such markers did not exist within our sample. We also determined that almost all universities in the sample had a natural hedge due to the low leverage levels and the high relative amount of cash and short-term investments on hand. Our conclusion is that explanations for the usage of interest rate swaps by Canadian universities must be either 1) that they are being used for speculative purposes, or 2) driven by one, or a combination, of asymmetric incentive structures and accounting processes, derivative unfamiliarity, power and status desires within the financial function of the organization or a form of herd behaviour.

Utilizing swaps as a speculative play appears to be unsupported. Most universities in the sample actually designate the swap as a hedging instrument. With one exception all swaps were VR to FR swaps indicating a hedging intent. Given the interest rate environment since widespread swap adoption post 2004, it is clear that such intent actually destroyed an existing natural hedge and actually created additional financial risk for the institutions.

We have proposed several possible explanations from organizational studies and financial reporting theory. Further research will be necessary to determine which fits the observed behaviour.

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Appendix A

Detailed Disclosure on Bank Loans, April 30, 2013

(Source: UNB Consolidated Financial Statements 2013, see reference in Note 6)

Canada Mortgage and Housing Corporation mortgages on University-operated student residences are repayable in equal semi-annual blended installments of principal and interest. The Residence Improvements loan includes advances under a Fixed Rate Term Loan Agreement to finance residence building improvements on the Fredericton Campus. The loan is at a fixed interest rate of 6.64% per year and is repayable in monthly blended payments of principal and interest. The loan payments are funded from the annual residence system operating budget.

The Residence Buildings loans maturing in 2020 and 2022 are ten-year term floating rate loans related to student residence buildings on the Fredericton Campus. The rate is adjusted monthly based on the Canadian BA, CDOR rate. For hedging purposes, the University entered into two interest rate swap transactions with the bank to effectively change its interest rate exposure from a floating rate to a fixed rate basis. The swaps involve the exchange of one-month promissory notes at floating interest rates for promissory notes at fixed interest rates of 6.45% and 6.50% respectively. The floating interest rate is set at the Canadian BA, CDOR rate which is an exact offset to the floating rate term loan. The maturity dates of the swaps are 2020 and 2022 respectively.

The 6.45% Residences Buildings loan maturing in 2028 is a floating rate term loan negotiated with a Canadian chartered bank to partially finance the construction of a new student residence on the Saint John campus. The ten-year term loan has a related amortization period to August 2028. The rate is adjusted monthly based on the Canadian BA, CDOR rate. For hedging purposes, the University entered into an interest rate swap transaction with the bank to effectively change its interest rate exposure from a floating rate to a fixed rate basis. The swap involves the exchange of one-month promissory notes at floating interest rates for promissory notes at a fixed interest rate of 6.45%. The floating interest rate is set at

the Canadian BA, CDOR rate, which is an exact offset to the floating rate term loan. The maturity date of the swap is August 2028.

The 5.34% Residence Building loan is a floating rate loan negotiated with a Canadian chartered bank to partially finance the construction of a new apartment style student residence on the Fredericton campus. The ten-year term loan has a related amortization period to September 2031. The rate is adjusted monthly based on the Canadian BA, CDOR rate. For hedging purposes the University entered into an interest rate swap transaction with the bank to effectively change its interest rate exposure from a floating rate to a fixed rate basis. The swap involves the exchange of one month promissory notes at floating interest rates for promissory notes at a fixed interest rate of 5.34 %. The floating interest rate is set at the Canadian BA, CDOR rate, which is an exact offset to the floating rate term loan. The maturity date of the swap is September 2031.

The 5.10% Academic Buildings loan is a floating rate loan negotiated with a Canadian chartered bank to partially finance the construction of a major renovation and addition to an existing academic building on the Saint John Campus. The 10-year term loan has a related amortization period to April 2030. The rate is adjusted monthly based on the Canadian BA, CDOR rate. For hedging purposes, the University entered into an interest rate swap transaction with the bank to effectively change its interest rate exposure from a floating rate to a fixed rate basis. The swap involves the exchange of one month promissory notes at floating interest rates for promissory notes at a fixed interest of 5.10%. The floating interest rate is set at the Canadian BA, CDOR rate, which is an exact offset to the floating rate term loan. The maturity date of the swap is April 2030. The loan is financed by a lease for the building with the Province of New Brunswick.

The 2.64% Health and Wellness Facility loan is a floating rate loan negotiated with a Canadian chartered bank to partially finance the construction of a new Health and Wellness Facility on the Fredericton campus. The ten-year term loan has a related amortization period to February 2027. The rate is adjusted monthly based on the Canadian BA, CDOR rate. For hedging purposes the University entered into an interest rate swap transaction with the bank to effectively change its interest rate exposure from a floating rate to a fixed rate basis. The swap involves the exchange of one month promissory notes at floating interest rates for promissory notes at a fixed interest rate of 2.64 %. The floating interest rate is set at the Canadian BA, CDOR rate, which is an exact offset to the floating rate term loan. The maturity date of the swap is February 2027.

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