

Northpoint Community Church: A case study in evaluating capital project financing options

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ABSTRACT

Problems related to evaluating/comparing multiple financing options arise in a variety of organizations, including not-for-profits and small businesses. The basic skills needed for the analysis are also useful in addressing analytical challenges in larger for-profit organizations.

This case study and teaching plan present students with information related to borrowing options for a mid-size church. The church executive and board members must decide between a five year bank loan or borrowing from the organization's endowment over either five or ten years. A complicating factor is the fact that the church currently receives a draw from its endowment as part of its operating revenues. This draw will be reduced if the church borrows from the endowment and the amount of the reduction is dependent on the amount borrowed. Finally, the church budget is tight, with limited flexibility to cover additional loan payments.

This case is appropriate for upper level undergraduate students and graduate students who have previously completed an introductory financial management course. It is targeted toward finance and accounting majors. The case study is designed to help business students develop both critical thinking and communication skills. Students must apply time value of money concepts to compare available options. In addition, the case provides students with practice using Excel to analyze a financial problem. Students are challenged to develop a presentation to communicate their analysis to a non-financial audience.

Part A presents the case study along with assignment questions to guide student analysis. Part B presents a teaching plan. Part C presents a case solution.

Keywords: not-for-profits, financing, bank loans, endowment, present value, discounted cash flow, MS Excel, communication

INTRODUCTION

Problems related to evaluating/comparing multiple financing options arise in a variety of organizations, including not-for-profits and small businesses. The basic skills needed for the analysis are also useful in addressing analytical challenges in larger for-profit organizations. Introductory finance textbooks (for example, Ross, Westerfield, and Jordan, 2019, Brigham and Houston, 2019) present key finance concepts, such as time value of money, cash flow estimation, and risk and return. They apply these concepts to the valuation of stocks, bonds, and capital budgeting projects. The analytical challenge presented in this paper requires basic understanding of these concepts while addressing a practical challenge not typically seen in introductory courses.

This case study and teaching plan present students with information related to borrowing options for a mid-size church.¹ The church executive and board members must decide between a five year bank loan or borrowing from the organization's unrestricted endowment over either five or ten years. An additional option is to raise funds from members. However, donor fatigue is a concern, since a five year capital campaign was just completed. A complicating factor is the fact that the church currently receives a draw from its endowment as part of its operating revenues. This draw will be reduced if the church borrows from the endowment and the amount of the reduction is dependent on the amount borrowed. Finally, the church budget is tight, with limited flexibility to cover additional loan payments.

According to Spear (2015), several questions must be addressed when organization leaders consider borrowing from an unrestricted endowment. Important issues revolve around the plan to pay back the borrowed funds, the interest rate to be paid, the costs associated with alternative sources of financing, and the required authorization for the loan from the governing board of the organization. Spear (2015) cautions that organizations may be tempted to borrow from their endowment in order to avoid making needed changes.

The case study is appropriate for both undergraduate and graduate finance students. It also may be a useful resource for church administrators and other financial managers who wish to further develop their analytical skills. It can be used in a variety of ways and over either one or multiple class periods. For beginning students, a partially completed spreadsheet may be provided to students, to guide their organization of the analytical problem. For more advanced students, an important part of the assignment may be to develop a framework (in spreadsheet form) to analyze the problem.

Bruner (2000) notes that "if one cares about quality of learning, one should consciously design repetitive engagement into courses and daily teaching." This case provides opportunities to apply previous learning on time value of money to the case problem. Students need to review previous learning and think critically about how to apply it to a new and more complex situation. While financial calculators or formulas are adequate, students have an opportunity to use multiple spreadsheet financial functions. The existence of the endowment draw and its effect on operating cash flows, adds complexity to the analysis. There are opportunities to discuss estimation of the appropriate interest rates and expected return on investment. The case provides ample opportunity for discussion of practical issues such as the impact of financing decisions on the organization's operating budget. Finally, the case provides opportunities for students to

¹ Northpoint Community Church is a fictional church. The case is based on actual situations encountered by the author while serving as a church treasurer.

practice communicating their financial analysis to a non-financial audience, via memo, PowerPoint presentation, and spreadsheet tables and graphs.

Part A presents the case study and related learning objectives. Part B presents a teaching plan and includes questions to guide student preparation for the case discussion. Part C presents a case solution. A spreadsheet to accompany the case solution is available upon request.

PART A – CASE STUDY

Case Narrative

Northpoint Community Church (NCC), a 450 member nondenominational church in suburban Detroit, needs around \$100,000 of cash by January 2021 to refinance the balance on a short term loan. The short term loan is what is left of a larger loan taken out five years ago to finance an improvement to the church social hall. The original plan called for the loan to be completely paid off at the end of five years. However, construction cost overruns and changes in the financial circumstances of several large donors led to a remaining balance of \$100,000 on this loan. In addition, the church minister and board have recently discovered that a new roof is needed by early 2021 on the classroom wing of the church. The preliminary estimates for the roof replacement are between \$60,000 and \$80,000. Miranda Gordon, the church treasurer, is working with the board members to figure out a way to finance these items. Options include borrowing a commercial bank or borrowing from the church endowment. Borrowing from the endowment is complicated by the fact that the church operating budget receives a draw from the endowment each year. A loan from the endowment will reduce this draw.

The church constitution requires a majority vote of members in order for the church to borrow from a bank or its own endowment. Thus, Miranda understands that she will need to clearly communicate regarding the options and her recommendation to the board and members of the church. Several vocal members of the church oppose borrowing from the endowment due to concern that the loan will not be paid back.

Finances at NCC are tight. Staff expenses make up 63% of the annual budget, so there is not much room to reduce operating costs without reducing staff. The church makes monthly mortgage payments of \$3,395. Annual revenues are composed of pledges from members (~65%), plate collection (~5%), rental income (~15%), periodic fundraisers (10% - 15%) and an annual draw from the church endowment (~3%). For 2020, the board budgeted for revenue of \$810,000 and operating expenses of \$806,500. The church has an unrestricted endowment with a balance of \$650,000. The annual draw on the unrestricted endowment is 4%, as long as the balance is greater than \$500,000. The annual draw decreases to 3% if the balance is between \$300,000 and \$500,000. There is no annual draw if the balance goes below \$300,000. For the most recent year, the unrestricted endowment draw was \$26,000.

Miranda recently discussed the possibility of a bank loan with a loan officer, Mike Brown, from First National Bank. Mike worked with NCC on a mortgage loan several years ago and is optimistic that a five year bank loan would be available. He estimated a fixed interest rate of 5.35% on the loan, given current market conditions and the current financial condition of NCC. Mike noted that the bank would likely not support a loan term longer than five years.

Church member opinions related to borrowing from the endowment vary. A few long term members oppose this option, since the church has a history of borrowing from its endowment and not repaying borrowed funds in a timely manner. These members believe the

objective of the endowment is to provide a stream of income each year in perpetuity to fund church programs. Other members, however, have a more flexible view of the endowment and believe it is appropriate to borrow the funds to support renovations and maintenance of the church buildings. These members are likely to vote in support of borrowing from the endowment, especially if there is a leadership commitment to pay back the endowment loan at a market rate of interest. Miranda believes a fixed interest rate of 5.125% would be adequate, given current market conditions. She has talked with a financial planner who helps manage NCC's endowment. He stated that he expects the endowment return over the next five to ten years to average around 5.125%. A disadvantage of borrowing from the endowment is that the annual draw will be lower, since it is based on the endowment balance. Advantages of borrowing from the endowment, in addition to a lower interest rate, are that the term of the loan may be longer than five years, and there is some flexibility in repayment. (Flexibility in repayment is viewed by some church members as a double edged sword since it may result in delayed repayment.) The church constitution requires that existing endowment loans are completely repaid before new capital projects are started. Several board members have asked Miranda how borrowing from the endowment will affect the endowment balance five to ten years from now. They are concerned that borrowing from the endowment will have a long term negative effect.

Miranda needs to share her recommendation at the upcoming NCC board meeting. Three weeks after that, she must be ready to present a clear and concise recommendation to the church members at the annual meeting. Assist her in anticipating questions from the board and congregation as well as in formulating an analysis to address these questions. Table 1 in the appendix summarizes key financing data.

Student Learning Objectives

Students will

1. identify important questions related to the financing challenge and develop a plan for answering them.
2. apply time value of money concepts to evaluate financing options;
3. develop fluency using financial functions in Excel;
4. Recommend a plan for securing the necessary financing.
5. communicate, using an Excel model and PowerPoint presentation, the analytical challenge and available options, to an audience with minimal background in finance.

Part B – Teaching Plan

Students may be asked to answer the following questions in advance of the case discussion. The case discussion may occur in a classroom or in an online LMS discussion area. Spreadsheet analysis will be helpful for addressing questions 2-5.

1. What questions need to be addressed in your analysis of multiple financing options?
2. What is the cash flow effect of borrowing from the bank?
3. What should the analysis of borrowing from the endowment look like?
4. What do you believe are the pros and cons of each financing alternative?
5. What is the expected endowment balance after five and ten years for each financing option?

The instructor may begin the case discussion by asking students to describe the challenge facing NCC leadership. Once the challenge of refinancing the short term loan and financing the roof repair is described, students may be asked to describe the borrowing options available and the advantages and disadvantages of each option.

With the borrowing options laid out, students may be asked to identify key questions to be answered for the case. Three key questions to address are

1. How do the costs of the three options compare? Which option is least costly?
2. What are the implications of the three options for NCC's day-to-day operations?
3. How will borrowing from the endowment followed by regular repayment of principal and interest affect the long term endowment value (after five and ten years)?

Question 1 can be addressed by showing the monthly and annual payments required by a five year bank loan and both five and ten year loans from the endowment. The endowment loan cash flows must include the decreased annual draws that will result from such borrowing. In other words, what is the incremental cash flow each month and year, considering loan payments and endowment draws? After specifying monthly and annual cash flows for each option, students should apply time value of money concepts to get the present value cost of each option. Students may be asked to share analyses prepared before the class session or online discussion. Alternatively, the instructor can ask students to work in small groups to develop a spreadsheet during class time.

Question 2 asks students to consider how each of the financing options will affect the ability of NCC to continue its basic operations. The objective here is to help students see the connection between financing capital projects and paying for programs related to the organization's mission. A longer loan term, with the corresponding smaller payment, may be more compatible with the organization's mission and programs. The disadvantage is that NCC will be making loan payments for twice as long. In order for a financing option to be viable, NCC must have enough operating income to make the principal and interest payments. Since NCC's budget is very tight, taking on this new loan may require reducing staff hours or cutting a program.

Question 3 focuses on the long term effect of borrowing from the endowment on the endowment balance. To answer this question, students need to develop a spreadsheet showing forecasted cash flows for the endowment under the three options over the coming five and ten year periods. As for question 1, students may be asked to share spreadsheets they developed prior to the case discussion or the instructor can ask students to work in small groups to develop a spreadsheet.

Finally, toward the end of the case analysis, the instructor may ask students to prepare an email and/or Power Point presentation to explain the key issues and recommendation to the NCC board or congregation. Weber (2007) notes that many business students do not understand the importance of skills such as writing effective emails and delivering clear and concise presentations. Incorporating requirements for business communication into case studies helps students further develop skills highly valued by employers. The email and presentation can be a follow-up assignment, with a deliverable due at a specified future time. The presentation and email are targeted to board members and congregants with non-financial backgrounds. Students may work on the communication documents individually or in teams.

Part C Case Solution

Prior to beginning to analyze the case, it may be helpful to ask students to review the following Excel functions: PV, FV, PMT, and NPV. Basic spreadsheet skills are very helpful for analyzing the case. Students should know how to use Excel “if” statements.

The first step in the solution to this case is for students to think critically about the questions to be addressed. The spreadsheet analysis must focus on the following questions:

1. What is the cost of each option, in both annual cash flow terms and in present value terms?
2. What will be the balance of the endowment after ten years with each option?

The cost of the bank loan includes the loan payments and \$4,000 in closing costs. This option will not change the annual amount of the endowment draw. For borrowing from the endowment, NCC will make monthly loan payments back to the endowment and receive a lower annual draw from the endowment. The spreadsheet solution is composed of five sections (A-E). The contents of these five sections are explained in the paragraphs below. Instructors can provide students with a partially completed spreadsheet or, for advanced students, ask them to build the spreadsheet themselves.

Section A presents the assumptions of the case and shows the three financing options. Students should use the Excel PMT function to compute the monthly loan payments, using inputs such as interest rates and the loan amount specified in the assumptions. The model is constructed so that changes to the assumptions flow through to the final computations.

Section B presents summary values which address the key questions of the case analysis. The present value cost of each loan option is presented, along with the ending balance, after ten years, of the endowment, for each loan option. The bank loan option is the least expensive, with the five year loan from the endowment a close second. It is interesting to see that the ending loan balance for options two and three, are slightly higher than for option one. In other words, if NCC repays the endowment loans as promised, the endowment balances will end up higher than without borrowing from the endowment. Option three is interesting in that it allows for the lowest monthly payment, making it more affordable given NCC’s tight operating budget. Also, the ending endowment balance is highest (by over \$8,000) at the end of year ten. The downside of this option is that NCC must make loan payments for ten years, rather than five years.

Section C shows the incremental cash flows per year and month for the three financing options. For options two and three, the incremental cash flows include both the loan payments and the decreased endowment draws. This section pulls from the computations on the Yearly Cash Flows sheet.

Section D is where end of year (EOY) endowment values are computed. The previous year balance less the annual draw is multiplied by one plus the expected annual endowment return. The annual draw is 4% if the endowment balance at the end of the previous year is at least \$500,000 and 3% if it is below \$500,000. An “if” statement in Excel may be used to address this conditional statement. For options two and three, the monthly loan payments are compounded forward to the end of each year and this amount is added. Students should use the FV function in Excel here. The value for the end of year ten is included in the summary information in section B.

Section E shows monthly and annual loan payments for each option, along with the effect of the lower endowment draw for options two and three. The Excel PV function is used to calculate the present value of the loan payments. The NPV function is used to calculate the present value of the lower endowment draws over time. The discount rate used in these

calculations is the bank loan rate, since this is the market rate of return for NCC. The PV of the loan payments and the NPV of the lower endowment draws are added together to get the cost of each financing option. As stated previously, the bank loan option is least costly, but the five year endowment loan is a close second and results in a slightly higher ending value for the endowment.

The final task for students is to communicate the results of their analysis to a non-financial audience in a clear and concise way. The email and PowerPoint presentation should explain the three available options, identify the two key questions listed earlier in this solution, and answer these two questions using results from the spreadsheet analysis. Graphs can be imported into PowerPoint from the Excel spreadsheet. See an example graph (figure 1) in the Appendix.

Case spreadsheet may be requested from the author. Email requests to ckocher@umich.edu.

Appendix

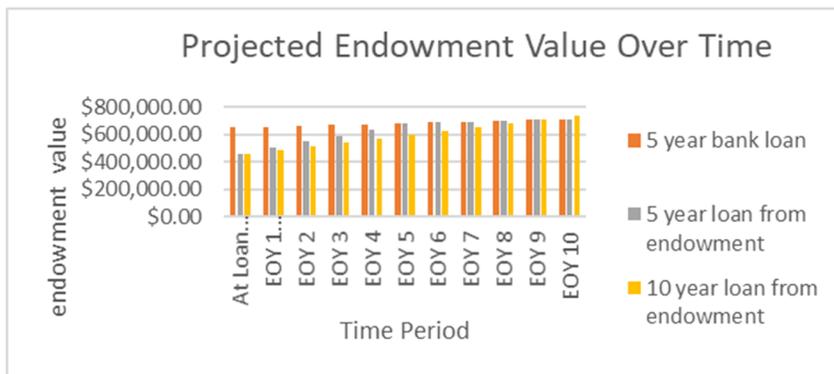
Table 1 – Case Data

| | |
|---|-----------|
| Funds needed | \$170,000 |
| Current endowment balance | \$650,000 |
| Interest rate on bank loan | 5.35% |
| Fees for bank loan | \$4,000 |
| Interest rate on endowment loan | 5.125.0% |
| Expected annual average rate of return on endowment | 5.125% |

Table 2 – Summary values from Section B of case spreadsheet

| Section B | Bank Loan | 5 yr Endow Loan | 10 yr Endow Lc |
|---|--------------|-----------------|----------------|
| Summary Values | | | |
| Present Value of Incremental Cash Flows | (174,000.00) | (182,126.47) | (202,419.14) |
| Projected Endowment Balance at End of Year 10 | 712,337.45 | 713,673.20 | 740,473.52 |

Figure 1 – End of year endowment values calculated in Section D of case spreadsheet



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