

COLLABORATIVE LEARNING: A STUDY ON THE INTEGRATION OF INTRODUCTORY FINANCIAL ACCOUNTING AND CORPORATE FINANCE

¹Gleesson, B.

Article Info

Keywords: financial accounting, corporate finance, cross-functional integration, curriculum, student learning experience.

Abstract

Financial accounting and corporate finance are required courses in most undergraduate business programs. However, students often struggle to transition from accounting to finance, which we believe is due to the lack of communication and collaboration between the instructors in these two fields. The siloed nature of accounting departments is identified as an impediment to the integration of curriculum across courses. Cross-functional integration is also lacking in the business world. While there is a small literature on the integration of finance and accounting courses, the recommendations have not had a widespread adoption in the classroom. Bianco et al. (2014) describe a two-course sequence integrating general business, managerial accounting, financial accounting, and finance in the General Business Core (GBC), taught by a single faculty member at Bentley University. However, faculty time spent in course development and scarcity of teaching materials are identified as barriers to successful integration of accounting and other business subjects in the classroom. We believe intentional efforts are needed to bridge the gaps between these two fields and across departments. This paper identifies the lack of cross-functional integration in accounting and finance courses and addresses the challenges for successful integration. The integration of finance and accounting courses has the potential to improve student outcomes and prepare them for the business world. Our paper provides recommendations for faculty members to collaborate and communicate in a way that promotes cross-functional integration and ultimately enhances the student learning experience.

INTRODUCTION

In most undergraduate business programs, financial accounting and corporate finance¹ are required courses in the core curriculum (1). Moreover, the introductory financial accounting course is normally a prerequisite to the

¹ Stonehill College

introductory course in finance. In theory, the progression from financial accounting to finance should work effortlessly, because accounting provides the necessary background students need to advance successfully to finance classes. In practice, however, students do not find it easy to transition from accounting to finance. We believe one major reason is the lack of communication and collaboration between the instructors in these two fields. Accounting instructors are often unaware of how their lectures will be incorporated in finance classes. Similarly, finance instructors are often unaware that most of the topics they teach have already been introduced in the accounting classes, albeit in a different context. In its 2012 report, The Pathways Commission (2012) identified the siloed nature of accounting departments as an impediment to the integration of curriculum across courses. Just as faculty members *within* a department can be siloed, we believe that faculty members *across* departments have an even greater potential to be siloed, without intentional efforts to bridge these gaps. There is a small literature on the integration of finance and accounting courses for better student outcomes (Bianco et al, 2013; Bianco et al., 2014), however the recommendations out of this literature did not have a widespread adoption in the classroom so far. The lack of cross-functional integration observed in the classroom is not dissimilar to the opportunities identified in the business world for business units to work together (Gleesson, 2013).

Bianco et al. (2014) describe a two-course sequence integrating general business, managerial accounting, financial accounting, and finance in the General Business Core (GBC), taught to first year students by a single faculty member at Bentley University. In their article, they state that there was only one other institution, Villanova University, that integrates introduction to accounting and finance. Bruns (2014) identifies costs to faculty time spent in course development and scarcity of teaching materials as barriers to successful integration of accounting and other business subjects in the classroom.

FIGURE 1 TOPICS COVERED IN TYPICAL FINANCIAL ACCOUNTING AND INTRODUCTORY FINANCE COURSES

Financial Accounting	Corporate Finance
1. Financial Statements	1. Overview of Corporations
2. Balance Sheet Events and Equation	2. Review of Financial Statements
3. Income Statement Events and their Impact on the Accounting Equation	3. Financial Statement Analysis
4. Adjusting Entries	4. Time Value of Money
5. Internal Control and Accounting for Cash	5. Cash Flow Projections
6. Accounting for Accounts Receivables	6. Capital Budgeting
7. Accounting for Inventories	7. Stocks and Stock Valuation
8. Accounting for Long-Lived Assets	8. Bonds and Bond Valuation
9. Short-Term Liabilities	9. Risk and Return
10. Time Value of Money and Bonds	10. Cost of Capital
11. Stockholders' Equity	11. Capital Structure
12. Statement of Cash Flows	
13. Ratios and Financial Statement Analysis	

As Figure 1 illustrates, there is a significant overlap between the topics covered in a financial accounting and introductory finance courses. In this study, we take the first step towards building effective teaching materials for accounting and finance courses for successful integration. Our main goal in this paper is to identify specific ways that accounting and finance instructors can stress the similarities and differences when they introduce complementary topics. We discuss, topic-by-topic, how instructors can reinforce the connections between the two fields in the classroom for more effective teaching and deeper learning. We also propose further research to explore the feasibility of strategies and assessments for teaching the two courses concurrently in the same

semester, trading classes, co-teaching, and/or developing assignments that require students to reflect on how the two fields can work together in the real world.

In two earlier papers, Bianco et al. (2013) and Bianco et al. (2014) discuss the silos that exist between the accounting and finance disciplines, and document how their institution has counteracted the silo problem by developing and implementing a two-course sequence integrating financial accounting, managerial accounting, and finance. This paper differs from these earlier papers by proposing how standalone financial accounting and corporate finance courses can be integrated, for those institutions that, for political reasons or lack of bandwidth or lack of faculty fluent in both disciplines, cannot offer an integrated accounting and finance course. Additionally, in this paper, we provide guidance about how instructors can compare and contrast how the various topics are taught.

Regardless of how this integrated teaching takes place format-wise, our belief is that strengthening/reinforcing the connections between financial accounting and finance will lead to greater perceived relevance (on the part of students) of the material and improved student outcomes. This in turn will lead to greater interest among our students in majoring in accounting or finance (or majoring in one while minoring in the other or even double-majoring), resulting in increased enrollments, which has benefits for our students, our faculty, and our departments.

FINANCIAL STATEMENTS AND THE ACCOUNTING EQUATION

In most financial accounting textbooks, the concept of accounting is introduced in the context of a business entity, and the need for information about the entity's performance, resources, and obligations, with accounting serving as a system that converts raw economic transaction data into information that is useful for decision-makers. The textbooks then go on to explain that *financial* accounting is focused on external users, as contrasted with *managerial* accounting, which is focused on internal users. For these external users, typically investors and creditors, this information is provided in the form of four basic financial statements. These statements include 1) the balance sheet, 2) the income statement, 3) the stockholders' equity statement, and 4) the cash flow statement. An overview of the information contained in these financial statements is then provided. It is also important to understand that although many different economic events affecting a company may occur, only the ones that affect the fundamental accounting equation ($A=L+SE$) are considered in accounting as transactions and included in the financial statements.

Similarly, most introductory finance texts also begin with a discussion about businesses. There is an overview of the different forms of business organization such as proprietorships, partnerships, limited liability companies, public corporations, and lately benefit corporations. Corporate finance generally focuses on the most complex form of business organization, which is the public corporation. Students learn about different stakeholders of a public corporation, which include shareholders, creditors, managers, board of directors, government, customers, employees, suppliers, and society at large. Then, the instructor introduces the idea of shareholder value maximization being the ultimate objective of financial management in a public corporation, which is explained with the use of a balance sheet model of the firm, where the firm is thought of as a collection of short-term and long-term assets. The firm uses its assets to generate cash flows, which are then distributed among the financiers of the firm, namely debtholders and stockholders. As in accounting, the two sides of the "finance" balance sheet need to match, albeit with assets, debt, and equity measured at market value.

Balance Sheet

In financial accounting, the balance sheet is described as a statement of financial position at a point in time (normally at the end of an accounting period). Teaching this statement requires that students be able to make distinctions between assets, liabilities, and stockholders' equity items. We normally teach that assets are resources owned by a company, and that liabilities and stockholders' equity are how they are financed; with liabilities being debts owed to creditors, and stockholders' equity being claims by the owners of the company. We then use the fundamental accounting equation: $\text{Assets} = \text{Liabilities} + \text{Stockholders' Equity}$ to pull the information together.

Since each asset must have some source of financing, we teach that the total assets must equal the total liabilities and the total stockholders' equity.

As the financial accounting class progresses, we then classify the assets and liabilities as current and non-current, with "current" normally meaning assets or liabilities that are turned into cash or paid within one year or the operating cycle. We then use these definitions to create subtotals on the balance sheet for total current assets and total current liabilities. These subtotals allow us to create a ratio (the current ratio) between the two items and thus a metric for assessing a company's ability to pay its obligations in the short run.

Assuming a prerequisite financial accounting course, students start their corporate finance studies with an understanding of a firm's balance sheet. After a brief overview, the class quickly proceeds to review the actual balance sheets of public corporations. The finance instructors emphasize the following points while reviewing balance sheets:

- (i) Balance sheet model of the firm: We can conceptualize a corporation as a collection of assets (left hand side of the balance sheet). The firm uses its assets to generate cash flows, which are then distributed to the financiers (right hand side of the balance sheet).
- (ii) Seniority system: Equity holders are residual claimholders. Debtholders get paid before equity holders. This implies that equity is a riskier claim on a firm's cash flows.
- (iii) Book value vs. market value: It is emphasized that the balance sheets record assets and liabilities at their historical costs, except for some accounts that are marked-to-market.

Therefore, the book values recorded on a firm's balance sheet do not reflect the current value

(market value) of the firm's assets and liabilities. As the goal of financial management is to increase the market value of a corporation, financial managers focus on market values rather than book values.

As described here, we can see that there are some similarities and differences between the textbook accounting and finance views of the balance sheet. Although the form and content of the information is the same, the finance view appears to be more conceptual and potentially critical in nature. For example, most accounting courses tend to spend more time getting students to understand the "layout" of a balance sheet (i.e., focusing on classifying items as assets versus liabilities and what side of the balance sheet each belongs on), as opposed to preparing students for how the balance sheet could be used from a financial manager's point of view. Although business majors as well as accounting majors need to understand what a typical balance sheet should look like, we believe that more emphasis should be provided in accounting about how management must utilize its assets/resources to generate value and return the cash flows promised to its owners and creditors. This conceptual view, introducing (in financial accounting) the balance sheet as a collection of resources at the manager's disposal to generate cash flows for the company, should make learning the balance sheet more relevant and interesting than the traditional "prepare and compute" approach that is often taken in most financial accounting textbooks, and prepare students better for their corporate finance classes.

Moreover, introductory financial accounting textbooks are typically focused on applying current accounting standards and rules (accepting the rules as a "done deal") and provide very little discussion about the subjectivity and complexity underlying accounting rule setting. This viewpoint ignores that accounting standards have evolved and changed over time and that the accounting standard setting process is subject to political pressure and lobbying. This viewpoint also ignores that alternative measurement methods (e.g., historical cost, market value) for assets and liabilities exist, and that each method, even ones that are not allowed under current (GAAP) rules, could provide some kernel of "truth" about the value of an asset or liability.

As an illustration of this, consider the preference under U.S. generally accepted accounting principles to use historical cost when valuing assets in the balance sheet, and the corresponding emphasis on historical cost in financial accounting textbooks. At the same time, outside of the U.S., International Financial Reporting Standards (IFRS) allow for the use of market value in the valuation of fixed assets in the balance sheet. While we understand that financial accounting students have enough challenges learning US GAAP, let alone adding IFRS to their

plates, we believe that not discussing market value accounting for fixed assets represents a missed opportunity for financial accounting instructors. Think of the discussion that could result – what different information is conveyed under these competing measurement methods? What information would investors find more useful? What motivations could lead one standard setting body to go one way, while another body goes in a different direction? In other words, we believe there is value not just teaching how to apply the “rule,” as is currently done in classes but also discussing why this particular rule is the “rule.” Presenting accounting rules as evolving and the subject of debate between alternative measurement methods reinforces to students that accounting is not as “cut and dried” as they may believe, leading to a more interesting introductory class. Relatedly, Action Item 5.1.1 of the Pathways Commission

Report (2012) calls for “strengthening the knowledge about and identity of the discipline of accounting to reflect the breadth of opportunity, challenging and interesting roles.” Including coverage of the fluid nature of accounting rules (and having debates about the rules) in the introductory accounting class can serve to meet this Action Item.

A second reason for presenting market value accounting on equal footing to historical cost (rather than emphasizing the primacy of historical cost, as is currently done in financial accounting) is to prepare students for their corporate finance class. Financial analysts and private equity investors tend to be more interested in the *market values* of a company’s assets. To the extent that students transition from financial accounting to corporate finance already viewing market value as a legitimate valuation method, they will more quickly apply these market value concepts in corporate finance. This can be facilitated by its emphasis by accounting instructors as an alternative to historical cost and by having students completing exercises that incorporate market value information into their financial accounting calculations - the earlier in the semester the better and including exercises that illustrate the challenges of using market value information.

Accrual Accounting and Adjusting Entries

In financial accounting, we normally begin the study of transactions from a cash basis perspective. But (very) shortly thereafter we explain that cash basis accounting is not a good way to account for revenue and that it is better to recognize revenues when they are earned as opposed to when they are received, following the revenue recognition principle. Similarly we discuss that it is better to recognize expenses when they are incurred as opposed to when they are paid, and to “match” expenses in the same period as the revenues they generate, following the matching principle. Applying these two principles leads to accrual basis accounting, and once the concept of accrual basis accounting is established, textbooks go on to introduce adjusting entries, identifying four types: 1) accrued revenue, 2) deferred revenue, 3) accrued expenses, and 4) deferred expenses.

Conversely, in corporate finance, accruals and deferrals are typically not covered. Instead, the emphasis is on the exact timing and magnitude of the revenues and expenditures. In corporate finance, the general rule is to “follow the cash.” Accordingly, students are taught that financial managers need to be cognizant of actual cash inflows and outflows in order not to fall into short-term liquidity or long-term solvency problems.

Cash, Accounts Receivable, Inventories, and Long-Lived Assets

After the concepts of accrual accounting and adjusting entries are introduced in financial accounting, we normally then start to examine the asset side of the balance sheet in more depth. Particular attention is paid to topics such as the importance of reconciling the cash accounts, the problem of estimating uncollectible accounts receivable, the effect of different methods for costing inventories, and the various costs that should be included in the tangible asset accounts. The concept of depreciation is also introduced, along with the various ways depreciation expense can be computed. Intangible long-lived assets such as patents, copyrights, and goodwill are also introduced. Notably, even though intangibles are becoming more prominent as the economy transitions from a bricks-and-mortar economy to an information-based economy, most financial accounting textbooks address intangibles from a “mechanical” point of view (i.e., accounted for at cost, amortized on a straight-line basis, the need to test goodwill for impairment, etc.) and ignore the larger valuation issues related to intangibles. For example, while textbooks point out that intangibles are accounted for at cost for *accounting* purposes, they do not explain that

the current *economic* or *market* value of the intangible asset from an investor's point of view may vary dramatically from the original cost. They also generally do not address the fact that modern financial accounting standards make no attempt to assign a value to a company's human resources or other internally-generated assets. In finance, the asset side of the balance sheet receives a different type of attention. Investment (capital budgeting) decisions of a firm are about managing the asset side of the balance sheet. From that perspective, the financial manager chooses in which assets (short and long term) to invest. From the operation of these assets, cash flows for its owners and financiers are generated. The goal is to invest in assets that would provide the most favorable cash flow and risk combination. Similarly, working capital decisions partially relate to the asset side. Special attention is given to the optimal cash balance and its composition (cash vs. marketable securities) and inventory management.

Income Statement

In financial accounting, we teach the income statement as being a report about a company's financial performance during a period of time, providing information about an entity's profitability, which we call its net income or loss. The primary elements of this report are *revenues* and *expenses* (with net income or loss being the difference between the two); where revenues are funds brought in by the sales of goods or services to the company's customers and expenses are the costs of running the business. Although we introduce the accounting for revenues and expenses using the cash basis, we explain shortly thereafter that cash-basis accounting can result in possibly misleading results, which leads to the use of accrual basis accounting (discussed above in the "Balance Sheet" section). The revenue recognition principle and the matching principle discussed above factor in here heavily. Revenues must meet certain criteria before they can be recorded in the accounting records, without regard to the timing of the associated inflow of cash. Correspondingly, expenses must be properly matched to the revenues earned, also without regard to the timing of the associated outflow of cash, and to get these expenses and revenues properly matched up, we use accruals and deferrals. Accordingly, we spend a great deal of time in financial accounting teaching students about the importance of accruals and deferrals, as well as the techniques used to record earned revenues and incurred expenses *on* the income statement that have not been received or paid yet (that is we accrue them), or to keep certain cash receipts or payments *off* the income statement (that is we defer them) until they are properly earned or incurred, respectively.

As normally taught, students have a knowledge of income statements when they start studying corporate finance. The finance instructors emphasize the following issues while providing a brief review of income statements:

- (i) An income statement prepared under GAAP records revenues when they are earned, and expenses based on the matching principle. However, actual cash inflows and outflows may have occurred at a different time. In corporate finance, the main emphasis is on the exact timing of the actual cash flows. This is due to the time value of money.
- (ii) Financial managers would like to know about the cost structure (fixed vs. variable costs) because operating leverage has an impact on the riskiness of a firm's cash flows, hence influences its financing costs. Income statements do not classify the costs in a way that is useful for financial managers.
- (iii) Marginal vs. average taxes: In financial management, decisions are made based on the marginal tax rates (because any new cash flow will be taxed at the marginal rate).

When comparing how the income statement is viewed in finance versus accounting, we see that there are opportunities for each course to inform the other. For example, in financial accounting considerable effort is expended discussing the importance of accrual accounting and examining how accruals and deferrals work. The argument from accounting is that this approach results in a more meaningful representation of a corporation's earnings. This information, especially a corporation's earnings per share, is something that financial analysts are particularly interested in, both as an input and as an output (using historical EPS to make estimates of future periods' EPS). EPS is a metric that the investor community keeps a close eye on as well. However, it is important to note that this aspect of finance will be a core topic of the investments course, and not corporate finance (where the concern is about where the corporation's capital will come from and what it will cost). It is also important to

note that little, if anything, is mentioned in the accounting textbooks about the corporate finance professional's interest in estimating the exact timing of the cash flows that result from the corporation's earnings.

We suggest that accounting instructors, after introducing accrual accounting, emphasize that although it is important from an *accountant's* perspective, it does not reflect the actual timing of the cash flows, which is extremely important in *finance* for use in stock pricing and capital budgeting models. It is important for a businessperson to understand the connection and distinction here and that (accrual basis) earnings and earnings per share is not the only way to estimate stock valuations. It is also important to note that finance professionals are also interested in the breakdown of fixed versus variable costs, because the ratio of fixed to variable costs (i.e., operating leverage) has a direct effect on the cost of capital. A breakdown of fixed versus variable costs is normally not provided in the basic financial statements but can often be determined through cost analysis performed by internal accountants (and is typically covered in the introductory managerial accounting course). Corporate finance students can also benefit from a more thorough understanding of how the mechanics of accrual accounting can affect the "quality" of a company's earnings. Some financial analysts such as Subramanyam (2009) point out that accrual accounting often relies on estimates, deferrals, allocations, and valuations in determining a company's net income. These considerations suggest that subjectivity (and even manipulation) can play a role in the determination of accrual basis net income, as contrasted with cash flows, which are measured more objectively. For this reason, we believe that accounting instructors need to introduce the so-called "quality of income" ratio relatively early in their course (instead of at the end or even not at all) along with an explanation that analysts often consider earnings to be of higher quality when this ratio (cash flows from operations divided by net income) is higher.

FINANCIAL RATIO ANALYSIS

The use of financial ratios in financial accounting is usually developed throughout a semester-long course. Most financial accounting textbooks include one or two ratios in each of the chapters and then conclude with a dedicated financial analysis chapter toward the end of the book. As the ratios are introduced chapter by chapter, the coverage of ratios tends to be somewhat mechanical, insofar as the formulas are presented, but not a lot of discussion is provided as to how they might be used to make decisions. Things are better in the dedicated chapter, with more background information provided and end-of-chapter exercises where students are asked to prepare common-size analysis or are asked to compute a variety of ratios for two different companies and are then asked to choose which of the two they would prefer to invest in. As beneficial as these exercises are, however, they present ratio analysis as occurring in a vacuum and do not present the full scope of what goes into a financial analyst's or investor's buy, sell, or hold decisions. For example, these exercises do not incorporate the role that risk tolerance and time frame may play in the investor's decision and they typically ignore whether the investor is interested in capital gains, dividends, or a combination of both. They also tend not to discuss the importance of understanding the relationship of a company's price/earnings ratio as compared to the industry or to the historical average of the Standard and Poor's 500.

In corporate finance, financial statement analysis starts with the review of the ratios. The instructor goes over how each ratio is calculated, communicated, and used in financial analysis. The ratios are classified in five categories: Short-term solvency ratios, long-term solvency ratios, asset management ratios, profitability ratios, and market value ratios. The biggest emphasis is on the market value ratios, which include market-to-book ratio, earnings per share, and price-to-earnings. The market-to-book ratio is especially important in the context of corporate finance, because it is a measure of how much value a firm was able to generate using its assets in place. Hence, by benchmarking its market-to-book (MTB) ratio to its peers, a firm could at least partially diagnose the effectiveness of its financial management practices. With this aim, the instructor discusses that the MTB ratio is influenced by operating effectiveness (measured with return on equity (ROE)) or financing effectiveness (measured with financial leverage ratios and liquidity ratios). Following this discussion, the professor introduces the DuPont Identity, which breaks the ROE into its components: Profit margin, asset turnover ratio, and equity multiplier (financial leverage).

To make financial ratios more relevant and interesting in financial accounting, we believe that accounting professors need to make the subject less mechanical in the earlier chapters and include more discussion about what financial analysis entails and how an analyst might use a particular ratio. Accounting instructors should also highlight that the subject of financial ratios will come up again in corporate finance and that corporate finance instructors often consider market value ratios to be the most important, because an analysis of the market value ratios across time and in comparison with peer companies will highlight the quality of the entity's financial management decisions.

It should also be noted that there are some inconsistencies in how ratios are classified in financial accounting and corporate finance textbooks. For example, the earnings per share ratio is classified as a profitability ratio in financial accounting, whereas in corporate finance it is a market value ratio. The connection between earnings per share and a stock's market price should also be emphasized in financial accounting. Most students, when first taking accounting, do not understand that earnings drive stock prices and the textbooks in accounting often do not make this connection. Accounting instructors can help to make this connection by talking about P/E ratios for actual companies, having students look up and compute P/E ratios for companies, and identifying companies who have outlier P/E ratios that may suggest that their stock price is over or undervalued. Working with P/E ratio information helps to contextualize the subject matter, making it more interesting and easier to understand, while also reinforcing the connection between financial accounting and corporate finance.

CASH FLOW CALCULATIONS: CASH FLOW STATEMENT IN COMPARISON TO PROJECT CASH FLOWS

Most financial accounting texts introduce the cash flow statement in the first chapter, albeit at a very high level – if there is any coverage at this point, it is normally limited to identifying the three categories of cash flows in the statement: 1) operating, 2) financing, and 3) investing. In follow-up chapters, any cash flow reporting coverage is typically limited to identifying which of the three categories would be affected by the transactions introduced in that chapter. Typically, the process for preparing a full cash flow statement by using changes in the balance sheet is not covered until the end of most introductory financial accounting texts and given its placement in the semester, may or may not be covered due to lack of time. Moreover, although there are two alternative approaches (the indirect method and the direct method) for preparing the operating section of the statement of cash flows, coverage in classes is skewed toward teaching the indirect method. This is likely a reflection of the fact that the indirect method is used 99% of the time in practice (Libby et al., 2017, p. 604), but giving more class coverage to the direct method, which is essentially a cash basis income statement and provides information that is more aligned to corporate finance information needs, can spur on discussions of which method is “better” while also reinforcing the connections between financial accounting and corporate finance.

In corporate finance, a strong emphasis is given to the calculation and discussion of cash flows. This is because investment evaluation and capital budgeting decisions start with estimating the pro-forma cash flows over the life of the investment project. The main differences between cash flow statements taught in financial accounting classes versus corporate finance classes are the treatment of financing cash flows, treatment of sunk costs, opportunity costs, and side effects of the project.

(i) Financing Cash Flows: Financing cash flows are included in cash flow statements in financial accounting, but they are excluded from project cash flow calculations in corporate finance. Instead, they are used to calculate the cost of capital for the project. When evaluating projects, financing costs should not be double-counted, therefore they are excluded from the calculation of project cash flows.

(ii) Sunk Costs: In corporate finance, expenses that are incurred prior to investment evaluation are treated as sunk cost and are excluded from cash flow calculations. For example, any research and development expenditures that were spent are not included as a cash outflow.

(iii) Opportunity Costs: Any asset owned by a firm and used for a specific project is treated as an expenditure when doing capital budgeting from the corporate finance point of view. For example, if a company owns a warehouse and uses it for a project, then it would record its market value as a cash outflow at the onset of the

project. This is because if the project is not undertaken, the firm would have the opportunity to sell it at its market value. Conversely, at the end of the project, the firm will record a cash inflow associated with the use of the warehouse.

(iv) **Side Effects:** Oftentimes, corporations run multiple projects simultaneously. For example, a toothpaste manufacturer may decide to add toothbrushes to its product mix. Such an investment decision would possibly have a positive side effect (synergy) because the addition of a related product would increase brand recognition and lead to an increase in the cash flows generated by the toothpaste business of the company. Such positive side effects should be accounted for

as “cash inflows” for the new project. The side effects may also be negative if the new product line leads to cannibalization of existing products.

As illustrated above, there are some clear differences in dealing with cash flow calculations between the two disciplines. In general, financial accounting is more concerned with reporting cash flows for the entity as a whole and ensuring preparation consistent with GAAP, while in finance there is more concern about how cash flows are calculated for investment and capital budgeting decisions at the project level. Although it is unlikely that there would be sufficient time to cover the calculations involved in adjusting the reported accounting cash flows for the differences listed above (e.g., financing cash flows, sunk costs, etc.), the fact that such adjustments need to be made in finance could be discussed briefly in financial accounting. This discussion should make the accounting of cash flows more relevant and thus contribute to deeper learning as well as useful for when it is applied in the corporate finance course. Also, even in a financial accounting course where the mechanics of preparing the cash flow statement are not discussed, the meaning of cash flow from operations should be discussed, as well as what the implications are if cash flow from operations deviates significantly from reported net income. If the aforementioned “quality of earnings” ratio is low, this could lead to a discussion of the phenomenon of earnings management and discussion of the W.T. Grant bankruptcy case (Largay & Stickney, 1980).

In return, corporate finance professors should emphasize that the cash flows reported in the financial statements differ in certain aspects from the cash flows finance managers calculate to make investment decisions. There is also a need to motivate the transition from the reporting of cash flows at an entity level to the calculation of project-specific cash flows. Corporate finance instructors may find it useful to emphasize that the calculation of project-specific cash flows is economics-based decision making, hence the need to incorporate the role of sunk costs, opportunity costs, positive and negative side effects, and actual timing of cash flows. Also, the exclusion of financing cash flows when doing capital budgeting needs to be emphasized multiple times, as students seem to have difficulty internalizing this difference. To this end, it would be useful to explain that financing cash flows are incorporated in capital budgeting decisions through the cost of capital calculation, rather than the cash flow calculation. At the end, the rate of return for a project is compared to the cost of capital to decide whether an investment should be accepted and funded. As such, if financial cash flows are included in project cash flow calculation, there would be double counting of the financial cash flows.

TIME VALUE OF MONEY, DISCOUNTING AND COMPOUNDING

The time value of money is normally covered in an introductory financial accounting course in the chapter where we begin exploring liabilities in more depth, usually in the last third of the course. There are various ways to introduce the concept in accounting, including examining the question of what a “milliondollar” lottery prize paid out over twenty years is really worth today. For the lottery, the argument is made that receiving \$50,000 per year over 20 years is not equivalent to receiving \$1 million today, as money received or paid today is worth more than money to be received one year hence or at any date in the future, because it can be used to earn interest. Students are then taught how to use the present value tables provided in their textbooks to determine the present value of the lottery prize. The concept is illustrated further with a series of examples with the hope that students will be able to apply it to the valuation of bonds when it comes up later.

Present value and future value calculations are cornerstone math skills for any finance class. Students need to master these calculations to value financial instruments (stocks and bonds) and for net present value (NPV) calculations when evaluating investment projects. The instructor starts with discussing the reasoning behind why cash flows received at a later date are worth less than cash flows received sooner. After this discussion, students are taught about different types of cash flows (simple cash flow, annuity, growing annuity, perpetuity, growing perpetuity) and the corresponding present value and future value formulae. After practicing working with the formulas, students proceed into using financial calculators and/or spreadsheets for their calculations.

Comparing the two classes, we observe that the overall *concept* of time value of money is presented very similarly, but the classes diverge in how the present value *calculations* are done (PV tables versus formulas and spreadsheets). In corporate finance courses, students would benefit from hearing that the present and future value formulas correspond to the discount factors that were presented in the tables they used in the financial accounting classes, to make the necessary connections and ensure the continuity of learning.

FINANCIAL INSTRUMENTS

Bonds

In financial accounting, the discussion of bonds is a balance of concepts and computations. Students are taught *conceptual* information about bonds, such as the types of bonds and the associated terminology (e.g., debenture versus indenture and callable versus convertible). However, accounting textbooks generally do not devote much time to the pros and cons of the various types of bonds and how corporations decide which type of bond to issue (some textbooks do devote some time to the pros and cons of financing using bonds versus stock). The *computational* aspect of bonds leverages the time value of money discussion from earlier, using present value concepts to determine the market value (issue price) of a bond. We introduce situations and calculations where the market rate differs from the stated rate at the date of issuance, which leads to bond premiums and discounts, which then leads to the amortization of premium or discount and the related calculations. This last part is normally the most difficult part of this subject for students to understand. For this reason, some instructors choose not to cover amortization, especially when it will get covered again for accounting majors in the intermediate accounting course. Finally, the subject of solvency may be discussed, including how the debt to equity and times interest earned ratios are computed.

In corporate finance, a major emphasis is placed on corporate bonds. The terms of a bond indenture (coupon payments, maturity, face value, amount, restrictive covenants, etc.) are discussed and students learn how bonds are traded. Next, the following bond pricing formula is introduced:

$$\text{Bond Price} = C \left[\frac{1 - (1+r)^{-t}}{r} \right] + \frac{\text{Face Value}}{(1+r)^t}, \quad (1)$$

where C is the periodic coupon payment, r is the market interest rate (also known as yield-to-maturity) and t is the number of periods left to maturity. After working on bond pricing using the above formula, students are also taught how to calculate the price of a bond more practically, using financial calculators and/or spreadsheets with built-in formulas. Next, the professor introduces the concept of discount and premium bonds by comparing bond prices to their face values and discusses the interest rate risk and inflation risk in bond investing. Finally, students are introduced to the concept of yield-to-maturity and its determinants. The topic ends with a discussion of the risk factors in bond investing.

It is important to note that in corporate finance, instructors highlight that from the perspective of the issuer (i.e., the firm), bonds are a way of financing operations. As a financing instrument, bonds have both advantages and disadvantages. The advantage is that the coupon payments (as any other interest expenditures) are tax-deductible, therefore when a firm finances its operations by issuing debt, it effectively decreases its tax burden and increases the cash flows available for reinvestment or for payout to the owners of the firm. The disadvantage is that interest and principal repayments to the bondholders are legal liabilities of the firm, hence if a firm cannot generate

enough cash flows to pay back to the bondholders, it faces financial distress and may be forced into bankruptcy. Related to financial distress, bond ratings are introduced. Students are taught that credit rating agencies give credit ratings to the bonds issued by corporations, and higher ratings signal a lower financial distress probability. When comparing the two approaches, we can again see there are opportunities for each course to inform the other. Unfortunately, for some schools there is little coordination across the two courses on this shared topic. Additionally, although bonds are a major subject in finance, our conversations with other instructors revealed that some financial accounting instructors cut back coverage in their courses (focusing only the basics) and some do not cover the subject at all. We see this as not only a curriculum design issue, but also as a question for further research. We believe that bonds should indeed be covered in the introductory financial accounting course and that some information sharing across the two courses should be done. Although much of the basic terminology is the same across the two courses, one area that could be better coordinated is the use of present value tables versus calculators or spreadsheets. We believe that accounting instructors should consider introducing their students to the spreadsheet approach as well. The spreadsheet approach is probably more practical and easier to learn than financial calculators and is much more likely to be used again in their jobs as accountants and auditors.

Stocks and Stockholders' Equity

Most financial accounting textbooks, when covering the subject of stocks, begin by introducing the concept of corporations and explaining their features, including how individuals can contribute capital to a corporation and become an owner. Advantages and disadvantages of issuing stock from the corporation's perspective and of owning stock from the investor's perspective are discussed as well. The coverage of stocks then moves on to how to account for various stock-related transactions (the initial sale of stock, repurchase of stock, and the re-sale of the re-purchased/treasury stock). Coverage of dividends follows including the nature of cash dividends and when and how they are recorded and stock dividends versus stock splits. At this stage, many textbooks introduce the concept of preferred stock (and how stockholders' rights differ depending on the class of stock) and the associated concept of cumulative dividend preferences. Also, along the way, the earnings per share and dividend yield ratios are presented, but more from a computational point of view than how they might be used to make investment decisions.

In corporate finance classes, the emphasis is on the firm as the issuer of stocks. Students learn that once a firm sells equity to finance itself, it not only grants ownership to the stock investor, but also control rights. The stockholders can exercise their control rights by voting during the annual meetings of corporations and influence the decisions about major corporate decisions. Recent examples include say-on-pay votes for executive compensation and votes for environmental, societal, and governance (ESG) initiatives. Students are also introduced to different classes of common stock, which differ in terms of their voting rights and the various conflicts that arise when control and financial rights diverge from one another. An example would be founders holding stock with ten times the voting rights when compared to ordinary shares held by the public investors.

The next topic that is covered in corporate finance is stock pricing. In the introductory class, students are taught about Dividend Discount Models (DDM), which argue that the price of a stock should be equal to the present value of expected dividend payments. The general formula is as follows:

$$\text{Stock Price} = \left(\frac{D_1}{1+r} + \frac{D_2}{(1+r)^2} + \dots + \frac{D_N}{(1+r)^N} + \frac{P_N}{(1+r)^N} \right) \quad (2)$$

where D_t stands for dividend amount in period t , r stands for the expected rate of return, and P_t stands for the expected price of the stock when it is sold in period t . Dividend payments are either assumed to be constant (Constant Dividend Discount Model), or to grow at a constant rate (Constant Growth Model), or to grow at different rates as the firm matures (Multistage Growth Model). An additional assumption often invoked is that the firm exists and distributes dividends into perpetuity. Once these assumptions are made, the stock pricing formula boils down to either the present value of perpetuity or present value of growing perpetuity. For example, if the dividends are expected to grow at a constant rate, the stock pricing formula takes the form of:

$$\text{Stock Price} = \frac{D_0(1+g)}{r-g} \quad (3)$$

$(r-g)$

where D_0 stands for the last dividend paid, r stands for the expected rate of return, and g stands for the expected growth rate of the dividend payments.

Finally, in corporate finance, the instructor emphasizes that the *market value* of outstanding stock for a corporation is typically significantly different from its *book value* as recorded on the balance sheet. Students are advised to consider the market value of the stock (stock price times the number of shares outstanding) rather than the book value of the stock when assessing the financial standing of a company.

There is a great deal of commonality between the two courses when it comes to explaining the nature of corporations and the rights of their shareholders. A good reinforcement would be to include a stock pricing example when teaching present value calculations in financial accounting classes. Making this connection should not only make the introductory financial accounting course more relevant and interesting but provide a valuable foundation to build upon in finance. We also propose that a strong emphasis be given to explaining the difference between the book value and market value of stock in both courses.

COST OF CAPITAL

Although the cost principle, the cost of goods sold, and the cost-benefit constraint are often covered in an introductory financial accounting course, the cost of capital is generally not covered. While most courses cover the sources of capital and how they would be reported on a balance sheet, they do not emphasize the question of the cost differences when financing via a bond issue versus a stock issue. To some degree, the textbooks do highlight the characteristics of bonds and the normal requirement to pay interest (along with their tax deductibility) as well as the different types of stocks and the way dividends tend to work, but they generally do not emphasize how these factors are considered and weighed to achieve the optimum mix of these financial instruments. We believe, however, that the financial accounting course should mention that the weighted average cost of capital (WACC) will come up in the corporate finance course (and that there is a formula for computing it) and that marginal tax rates must be considered. Even though marginal tax rates are normally not covered in financial accounting textbooks, we believe this is an important enough concept that needs to be presented and explained. This additional information can contribute to deeper learning and can facilitate the connection to its use in corporate finance.

Weighted average cost of capital (WACC) is a core topic in corporate finance. The instructor first explains that WACC is the required rate of return by the investors, because that is ultimately what a firm needs to pay to secure financing. Then, students learn that the WACC is the discount rate for a corporation, hence it plays a central role in project selection and firm valuation. When teaching WACC, the first step is to teach the mechanics of cost of capital calculation. Cost of capital ultimately depends on: (i) weights of each source of capital, (ii) the costs of each source of capital, and (iii) the corporate tax rate. Capital is assumed to come from two sources, debt and equity, and the following weighted average cost of capital formula is introduced:

$$WACC = R_E \frac{E}{E+D} + R_D (1-t) \frac{D}{E+D}, \quad (4)$$

where R_e stands for cost of equity, R_d stands for cost of debt, E is the market value of equity, D is the market value of debt, and t is the marginal corporate tax rate. The instructor explains the intuition behind this formula, which weights the cost of alternative sources of financing according to the share of these sources in the overall capital structure while at the same time incorporating the tax advantage provided by debt financing. We also note that in advanced corporate finance classes, more sources of capital, such as preferred stock and convertible debt are introduced.

The next step is to teach students how to calculate cost of equity and cost of debt. In general, the cost of equity is estimated by either the Capital Asset Pricing Model (CAPM) or the Dividend Discount Model (DDM). The cost of debt, on the other hand, is proxied by the prevailing yield-to-maturities of a company's existing long-term bonds (if there is market trading of these bonds) or by adding a credit default premium to the risk-free rate (i.e., government bond yields, usually the current yield-to-maturity on 10-year government bonds). Along with the

mechanics of these methods, the instructors often introduce the relevant data sources needed to estimate the cost of debt and of equity and apply the methods to a few public corporations. At the end of this chapter, the students are expected to be able to use the WACC formula to find the cost of capital for a public corporation. It should also be noted that, in theory, firms should calculate and use project-specific cost of capital. This is because the risk of each project might be different. In advanced corporate finance classes, students learn how to establish project-specific cost of capital. They also learn how to estimate the cost of capital for a private firm.

CAPITAL STRUCTURE

In financial accounting, information regarding a corporation's capital structure is generally reported in the long-term liabilities and stockholder's equity section of the balance sheet. Although the financial leverage ratio is discussed in the financial accounting course, the emphasis is limited to reporting the information (and perhaps using that information to compare two companies' financial risk). Not much is said about how management might go about determining an optimal ratio of debt to equity.

On the other hand, capital structure is a central topic covered in corporate finance, with students learning about the theories used for calculating an optimal capital structure (i.e., the D/E ratio that minimizes the weighted average cost of capital for a firm). The main message is that the firms can increase their value by financing their operations with an optimal mix of debt and equity. There are four major theories taught in an introductory corporate finance class, which answer this important question: (i) pecking order theory, (ii) Modigliani and Miller Theorem without taxes, (iii) Modigliani and Miller Theorem with taxes, and (iv) trade-off theory. Each of these theories differs from one another in terms of the underlying assumptions about a firm's environment, with the most plausible theory being the trade-off theory.

When covering stocks and bonds in a financial accounting course, we believe that accounting instructors can do a better job of using this material to build a bridge to the corporate finance course. The courses are highly connected, yet little is said in the introductory accounting textbooks about the fact that theories for determining an optimal capital structure will be central in the upcoming corporate finance course. Students should therefore be informed that there is a theoretical optimal debt to equity ratio that will minimize the cost of capital for a firm. Although the details of these theories are beyond the scope of the introductory accounting course, we believe that accounting instructors should at least identify the four theories identified above. Again, we believe that making these connections will not only make the financial accounting course more relevant and interesting, but valuable for continued study in corporate finance as well as in their senior policy and strategy course.

TEACHING STRATEGIES

As illustrated in Figure 2, there are many connections between financial accounting and corporate finance courses. Hence, there are opportunities for each course to inform the other.

FIGURE 2 SUMMARY OF CONNECTIONS BETWEEN INTRODUCTORY FINANCIAL ACCOUNTING AND CORPORATE FINANCE

Financial Accounting	Corporate Finance
Topic 1: Financial Statements	
Make clear that, although financial statements are an important topic in both accounting and finance, the objective of financial accounting is to provide financial information to the external users for making investment and credit decisions, whereas the ultimate	Mention that financial statements were covered in financial accounting and the students should review in detail what they have learned in financial accounting during the first week of the corporate finance course.

objective of financial management in a public corporation is to maximize shareholder value. Also, point out that although many different economic events affecting a company may occur, only the ones that affect the fundamental accounting equation ($A=L+SE$) are considered in accounting as transactions and included in the financial statements.	The finance manager should be very competent in reading the financial statements and how line items are measured (historical versus current market values). Students should understand that in corporate finance, they need to look beyond what is reported, and develop an understanding of current market values because financiers (shareholders and creditors) are concerned about the valuation of the firm, not the historical values.
---	--

Topic 2: Balance Sheets

- Emphasize that many balance sheet items are recorded using assets and liabilities' historical values. While the standardization of record keeping is useful and necessary, investors and financial managers base their decisions on market values, not on the book values. - Tell students that they will transition to market values in their finance classes. - Point out that management must utilize its assets to provide cash flows to its investors and creditors. - Provide more discussion about financial analysts' and private equity investors' interests in the market values of a company's assets as well as the challenges accountants face in providing this information. - Challenge students to research the information value of reporting historical cost versus current market value for fixed assets and which method provides more useful information for investors.	- Emphasize that in corporate finance, the focus is on market values. To this end, the most relevant parts of balance sheets are the current assets and current liabilities, since their book values and market values are similar. On the other hand, long-term assets' and long-term liabilities' book values provide less useful information to the financial managers and to the outside investor community. - Explain that the book value of equity is not equivalent to shareholder value. Review the concepts of par value, paid-in-capital, retained earnings and other equity accounts recorded on balance sheets. Mention that total shareholder value is a firm's market capital (number of shares outstanding multiplied by current share price). Go over an example by showing how the book value and market value diverges for an actual company. Discuss why these two values are different, and why the market value may be higher or lower than the book value for a corporation. This would also be a suitable time to introduce market-to-book (MTB) ratio.
--	---

Topic 2: Income Statements

• Make students aware that financial managers tend to be more concerned with the exact timing of the cash inflows and outflows than the mechanics of accrual accounting and examining how accruals and deferrals work. This is because both liquidity and solvency depend on the firm's ability to generate cash. • Point out that financial analysts are, however, keenly interested in a corporation's earnings and focus a great deal on forecasting the next quarter's EPS. Forecasting EPS, however, is the domain of the investments course, and not corporate finance.	• Emphasize that the income statements published by firms may not correspond to the realized revenues and expenditures, because, in accounting, income statements are prepared based on accruals and deferrals. Financial managers should be cognizant about the accounting methods and understand that their short-term and long-term solvency require an analysis of actual cash flows beyond the information presented in the income statements. • Mention that financial managers need to seek information that goes beyond the income
--	---

• Introduce the quality of income ratio early in the course along with an explanation that earnings are assumed to be of higher quality when this ratio (cash flows from operations divided by net income) is higher. • Point out that financial managers are also interested in fixed versus variable costs, because the ratio of fixed to variable costs (i.e., operating leverage) has a direct effect on cost of capital. Such information is unfortunately not provided in the basic financial statements, but is determined through cost analysis and addressed in the introductory managerial accounting course that follows. This is also a good opportunity to remind the students of the external versus internal user orientation of the two accounting courses.	statement. For example, they need to keep track of a firm's operating leverage (fixed versus variable costs) because leverage affects the variability of a firm's cash flows.
--	--

Topic 3: Need for Adjusting Entries

• Emphasize that although accruals and deferrals are important from a financial accounting and reporting perspective, they are not that relevant to corporate finance, except when they can be used as a starting point for determining the actual timing of the cash flows. Cash flows are more important in corporate finance where they are needed in working capital management, capital budgeting decisions, and stock and bond valuation. • Point out, however, that accrual-based corporate earnings numbers, especially earnings per share, are particularly of interest to financial analysts who spend a great deal of time making estimates of the next quarter's EPS. But it is important to note that this aspect of finance is more important in the investments course, and not corporate finance.	• Not covered in corporate finance, but students may ask questions about adjustments.
Topic 4: Internal Control	
• Emphasize the importance of this topic to non-accounting as well as accounting majors. Students should be told that occupational fraud is a problem in every business and, that according to the Association of Certified Fraud Examiners, is costing businesses nearly 5% of the total revenues each year or nearly \$1 trillion. • Students should be told that according to federal regulators, management is responsible	• In corporate finance, students are introduced to corporate governance. The instructor could inquire about what the students recall from internal control mechanisms in their financial accounting classes or give a reflection assessment. After this discussion, they can transition to learning about corporate governance mechanisms, such as board of directors and executive compensation (e.g., clawback provisions following financial misreporting and restatements).

for the design and maintenance of the internal system. • Inform students that the COSO Integrated Framework of Internal Control was created recently to help management understand how an effective internal control system should work. • Also, point out that the Sarbanes-Oxley Act of 2002 (SOX) will hold the chief executive and financial managers of public companies accountable when fraud occurs on their watch. • Also, point out that SOX now requires public companies to have an audit of their internal control over financial reporting in addition to their financial statements. • Students should be informed that this material will be addressed again in corporate finance in part when they introduce the topic of corporate governance.	• A discussion of the role of Securities Exchange Commission (SEC) and the stock exchange listing rules and requirements would also complement this topic. This discussion could be tied back to financial accounting by bringing in a discussion of fraud and ethics.
Topic 5: Financial Ratio Analysis	
• Make this subject less mechanical in the earlier chapters and include more discussion about what financial analysis is about and how the analyst might use a particular ratio. • Emphasize that financial ratios will come up again in corporate finance and that corporate finance instructors often consider market value ratios to be the most important. • Point out that the earnings per share ratio is classified differently in financial accounting, where it is a profitability ratio, whereas, in corporate finance, it is a market value ratio. • Emphasize the connection between earnings per share and a stock's market price. • Show students how to use the historical S&P price earnings ratio to assess the relative value of a company's stock price.	• Since most of the ratios have already been introduced in financial accounting, corporate finance instructors can start with grouping the ratios with respect to their uses in assessing liquidity, long-term solvency, asset utilization, and profitability. • Make a transition to how financial ratios are used in the corporate setting. Stress that finance managers use financial ratio analysis to assess themselves against their competitors. Introduce the DuPont Analysis, which is used to analyze the drivers for financial performance as measured by return on equity (ROE), and areas of improvement. • Reiterate the importance of market value. Emphasize that the emphasis in corporate finance should be mostly on market value ratios.
Topic 6: Cash Flow Calculation	

• Make students aware that cash flow calculations will become extremely important in their corporate finance course. To clarify, it should be noted that in accounting the emphasis tends to be more on reporting and classifying cash flows as operating, investing, or financing; whereas, in finance there is more concern about the exact timing of the cash flows because of their use in stock pricing and capital budgeting models. It should also be pointed out that cash flow can be compared to	• Remind students that they have built cash flow statements using balance sheets and income statements in their financial accounting classes. Provide a balance sheet and an income statement and ask students to put together the operating cash flows and investing cash flows. • Stress that the cash flow calculation in corporate finance differs from accounting cash flow statements in a number of ways
--	--

the accrual-basis net income to determine what is referred to as the quality of income ratio. • Also, point out that a major difference between cash flow statements taught in financial accounting classes and corporate finance is the treatment of financing cash flows, treatment of sunk costs, opportunity costs, and side effects of the project.	• (role of sunk costs, opportunity costs, project side effects). Highlight that any cash flows related to financing activities (e.g., interest payments, dividend payments) are not a part of project cash flows. Instead, they are used to calculate cost of capital.
---	--

Topic 7: Time Value of Money

• Emphasize that this is extremely important subject matter for not only bonds in financial accounting, but prerequisite material for the study of finance. It should therefore be pointed out that present value calculations will be used for many financial decisions. • Students should as be made aware that although the accounting textbooks tend to emphasize the use of tables, in finance, they will likely be expected to use financial calculators and spreadsheets. Some practice with the latter is therefore recommended.	• Remind students that they were introduced to present value and future value calculations in financial accounting. • Inquire about the types of cash flows that were covered in financial accounting. In corporate finance, focus is on five types of cash flows: (i) simple cash flows, (ii) annuities, (iii) growing annuities, (iv) perpetuities, and (v) growing perpetuities. The instructors should make sure that students can identify these types of cash flows before they introduce the associated present value and future value formulas. • Make the link between the tables the students used in financial accounting and the discounting and compounding formulas introduced in corporate finance. • End with teaching students functions in Excel to make present and future value calculations. By the end of corporate finance, students should not be using tables, but spreadsheets.
---	--

Topic 8: Financial Instruments

• Ensure that bonds are covered and that students are clear that this is an important topic that will come up again in corporate finance as a way for a corporation to raise capital. • Explain to students that the reason for there being so many different types of bonds is a combination of marketing and the relative cost of capital. • Introduce students to the use of spreadsheets for computing the present value of the cash flows generated by bonds. • Point out that in corporate finance, they are also interested in yield-to-maturity (in addition to stated rates). • Point out that although stocks are an important topic in both financial accounting and corporate finance, which values are	• Assuming that bonds were covered in financial accounting, start the topic by inquiring how much the students know about bonds. If bonds were not covered, then talk about why firms issue bonds (to raise capital) and the cash flows the bond issuer promises to the bond investors. Remind students about basic bond contract terms that they may have covered in financial accounting (coupon rate, face value, maturity). Then talk about how coupon rates are determined at the time of the bond issue. Most probably, the students have not learned about the determinants of bond contract terms in accounting classes, so they will benefit from an in-depth discussion about them. Introduce bond pricing and yield-to-maturity calculations. Students may have already
---	--

emphasized is quite different - in accounting we report par values and additional paid in capital, as contrasted with corporate finance where the emphasis is more on maximizing the market value of the shares. • Financial accounting also reports shares reacquired by a corporation as treasury stock, which is valued at cost; whereas, in corporate finance the emphasis is on the market value of the outstanding stock (i.e., number of shared outstanding times share price, also known as market capitalization of the company).	• covered bond pricing in financial accounting, but most probably have not been taught how to calculate yield-to-maturity. • Assuming that stocks were covered in financial accounting, start by inquiring about how much they have covered in financial accounting. Introduce control rights (i.e., voting rights) of the stockholders. Mention that control rights have value (stocks with superior voting rights trade at about 5 percent premium). The value of these control rights is not recorded in financial statements. Tie this discussion to different classes of stock, and why corporations may issue different classes of stock. • Introduce the calculation of market value of equity. Highlight that market value is vastly different than the book value of stock, which is recorded in balance sheets. Once again, review the market-to-book ratio. Talk about negative book values, and
---	---

	why a company may have a negative book value and positive market value. • Talk about how stocks are traded in the market and how stock prices are determined. Mention that in financial accounting, the focus was not on stock pricing, because the value of stockholders' equity as recorded on the balance sheet is not marked to market. However, financial statements contain valuable information on past distributions to the stockholders (dividends and share repurchases). Stock pricing models used in corporate finance use the information contained in the financial statements to make reasonable assumptions (e.g., the expected dividend growth rate).
--	---

Topic 9: Cost of Capital

• Point out that although most financial accounting courses cover the sources of capital in a corporation and how they are reported on a balance sheet, they do not discuss how an optimum balance of debt to equity is determined. This is a subject that will be addressed in corporate finance along with the weighted average cost of capital (and that there is a formula for computing it) and that marginal tax rates must be considered.	• Mention that financing costs such as interest payments and dividends are recorded in the financial statements. Corporate finance professors should make sure that financing costs such as interest expenditures shown on accounting statements do not reflect the actual cost of capital for a company. They are historical financial costs. In corporate finance, the aim is to answer the question: If the firm were to raise capital now, what would it need to pay to the providers of capital?
• Since marginal tax rates are normally not covered in most financial accounting textbooks, they should be explained. • Point out that in corporate finance, interest payments and dividends are considered costs of capital.	• Introduce weighted average cost of capital (WACC) and teach students how to calculate WACC for a public corporation using publicly available data. Once again emphasize that WACC is a forward-looking calculation and the historical financing costs recorded on financial statements cannot be used to determine it.

Topic 10: Capital Structure

- | | |
|---|---|
| <ul style="list-style-type: none"> • Inform students that although we tend to focus on reporting a corporation's debt and equity on the balance sheet in financial accounting, there are theories for determining an optimal capital structure. • Students should therefore be informed that there is a theoretical optimal debt to equity ratio that will minimize the cost of capital for a firm and that the four theories they will study in finance include: (i) pecking order theory, (ii) Modigliani and Miller Theorem without taxes, (iii) Modigliani and Miller Theorem with taxes, and (iv) trade-off theory. • Point out that although debt and equity is often reported at book value in financial accounting, in corporate finance they will learn formulas for calculating their market values. | <ul style="list-style-type: none"> • Start by reviewing how to determine financial leverage (i.e., total debt) using balance sheet data. Emphasize that in financial accounting, leverage was defined as total liabilities. In corporate finance, the focus is on "financial leverage," defined as the sum of short-term debt and long-term debt. • Teach the capital structure theories without assuming any prior knowledge. Emphasize that capital structure theories talk about the market values of debt and equity, not the book values that are recorded on the balance sheet. Show an example of a company with negative book value of equity to reinforce the concept. Remind the students why equity may be negative on a balance sheet, and why a negative equity amount does not mean that shareholder value is negative. • Emphasize why book values of debt and equity differ from their market values, and how one can calculate the market values. • Highlight that while calculating market value of equity is straightforward, calculating market value of debt is not. Therefore, oftentimes corporate finance practitioners need to assume that market values and book values of a firm's debt are similar. • Encourage students to analyze a firm's financial reports to understand the actual capital structure. Even though we assume in introductory corporate finance that there are two sources of capital (equity and debt), in reality, firms finance themselves with some other financial instruments, too. Examples include preferred stock and convertible debt, which are neither debt nor equity, but hybrid financing instruments. |
|---|---|

CONCLUSION AND FUTURE RESEARCH

In this paper, we provide an overview of the topics covered in the introductory financial accounting and introductory finance courses. To our knowledge, our paper is the first to identify and elaborate on the extent of

the overlap between the two courses. We also provide a comprehensive list of the concepts taught in both courses, albeit from different perspectives. We then suggest ways the instructors might enhance student learning by making connections while teaching in the classroom.

Making such connections can enhance both courses when using the traditional sequential approach, where financial accounting precedes corporate finance. Future research could explore whether there is merit in teaching the two courses concurrently. To this end, surveying finance and accounting instructors could assess the need, interest, and feasibility of teaching financial accounting and corporate finance courses at the same time. If such surveys illustrate that there is an interest in teaching the two courses concurrently, then instructors may create alternative syllabi for the two courses that would leverage the connections between them. Another possibility could be the two professors collaborating in a separate seminar (while teaching the courses), where the two subjects are discussed and examined together, or even a single professor working alone to teach the joint seminar (as discussed in Bianco et al., 2013). We leave the exploration of the viability of alternative teaching and learning structures to future research.

The cross-referencing of the finance and accounting topics we presented may also be used by the faculty in both disciplines to create assignments that can be implemented in the classroom to integrate learning objectives. Future pedagogical research may focus on a subset of the topics and a smaller set of learning objectives instead of the courses as a whole. It would especially be useful to develop specific exercises and assignments accompanied by teaching notes. The instructors could then modify these exercises and adapt in their courses.

Future research may also investigate whether the teaching strategies presented in our paper are effective. For example, researchers may conduct surveys to determine the outcomes of integrating the strategies material on student outcomes. Future research may also investigate whether establishing connections in accounting and finance courses may help students choose their majors and career paths in a more informed way.

In closing, any effort to enhance the connections between the financial accounting and corporate finance courses should prove to be useful. Finance managers (treasury departments) in corporations need to have a solid understanding of financial reporting and will work in close connection with the accountants (control departments). If business students have an opportunity to make the connections we have summarized in this paper, they will be able to work in cross-functional teams with greater success.

ACKNOWLEDGMENTS

We thank Brenda Anderson, Ben Angelo, Hagit Weihs, anonymous reviewers, and workshop participants at the 2018 AAA Northeast Region Meeting and the 2022 AAA Southeast Region Meeting for helpful comments and suggestions. We are also grateful for financial support provided by the Leo J. Meehan School of Business Summer Research Grant Program.

Professor John Schatzel passed away unexpectedly as we were nearing the completion of our paper. We miss him dearly.

REFERENCES

- Bianco, C., Levy, E., Marcel, M., Nixon, M., & Osterheld, K. (2014). From Silos to Pipelines: Free Flow of Content Via Course Integration. *Advances in Accounting Education: Teaching and Curriculum Innovations*, 15, 167–200. <https://doi.org/10.1108/S1085-462220140000015007>
- Bianco, C.A., Levy, E., Marcel, M., Nixon, M., & Osterheld, K. (2013). The Integration of Accounting and Finance in the Introductory Classroom: Results from Generation Y. *Journal of Accounting and Finance*, 13(6), 134–167.
- Bruns, S.M. (2014). Accounting integration issues: From AECC to Pathways and beyond. In *Advances in Accounting Education: Teaching and Curriculum Innovations* (vol. 15, pp. 127–134). Emerald Group

Publishing Limited. Eliminating the Silos in Education. Retrieved from https://www.huffingtonpost.com/john-m-eager/eliminating-the-silos-in-_1_b_2155016.html on 12/2/2018

Gleesson, B. (2013, October 2). The Silo Mentality: How To Break Down The Barriers. *Forbes*.

Largay, J.A., III, & Stickney, C.P. (1980). Cash Flows, Ratio Analysis and the W.T. Grant Company Bankruptcy. *Financial Analysts Journal*, 36(4), 51–54.

Libby, R., Libby, P.A., & Hodge, F. (2017). *Financial Accounting*. New York, NY: McGraw-Hill.

Niehoff, M. (2018, February 26). *3 Ways To Model Collaboration and Partnership in Schools and Classrooms*. Retrieved from <https://www.gettingsmart.com/2018/02/3-ways-to-modelcollaboration-and-partnership-in-schools-and-classrooms/>

Nisula, K., & Pekkola, S. (2018). How to move away from the silos of business management education? *Journal of Education for Business*, 93(3), 97–111.

Subramanyam, K.R. (2009). *Financial Statement Analysis*. New York, NY: McGraw-Hill.

The Pathways Commission. (2012). *Charting a National Strategy for the Next Generations of Accountants*. Sarasota, FL: AAA, and New York: AICPA.