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Teaching and Educational note

Introducing XBRL through a financial statement analysis project

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ABSTRACT

In this project, we introduce business and accounting students to the application of eXtensible Business Reporting Language (XBRL) through the use of interactive data. Students study the basic concepts and potential benefits of interactive data and XBRL. Students learn to extract the financial reports of two companies in the same industry. Then, using traditional financial analysis techniques (ratio analysis) students can compare the performance of these companies. Thus, the project accomplishes two important objectives: it introduces students to the benefits and features of XBRL-tagged financial reporting and interactive data, and it shows how this medium can be used to facilitate the analysis of financial statements. The project uses free, publicly available interactive data tools to accomplish these objectives.

This project is appropriate for any level of financial accounting course in which students use public company financial statements to generate financial ratios and conduct analysis on them. We aim the project at MBA-type introductory accounting courses. In addition, we show how it can easily be expanded to be applied to higher level financial statement analysis courses, both at the undergraduate and graduate levels. The project provides some background into how XBRL-tagged financial reporting is generated, while the main focus is on application of interactive data and not the technology itself. Since XBRL is now mandated by the US Secu-

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rities and Exchange Commission (SEC) for most reporting entities, it is critical for today's business students to be familiar with this method of communicating financial information.

1. Introduction

Financial information for all publicly traded companies in the US is now offered in both interactive and non-interactive formats. The purpose of this project is to introduce students to the interactive format, to understand how the interactive data are created, and to explore the benefits of using interactive data. These benefits include the ability to apply traditional financial analysis techniques, including ratio analysis, to a company and to compare companies or the performance of the same company over different periods in a much easier process than with traditionally produced (non-interactive) financial reports.

The format used to offer the interactive data is called XBRL. eXtensible Business Reporting Language (XBRL) is an internet-based language designed specifically to accommodate financial reporting. It provides data in a context-rich format that can be readily downloaded into analytical software such as spreadsheets or interactive data viewers.[3] XBRL is expected to facilitate the disclosure process and the dissemination of information to users and regulators (Baldwin, Brown, & Trinkle, 2006; Hodge, Kennedy, & Maines, 2004). XBRL can be used to transmit financial statements, tax returns, and other business information (Cohen, Schiavina, & Servais, 2005). Some of the benefits and potential uses of XBRL are still being explored and developed. The richness of the interactive data now allows the user of the data to dig deeper into each account and get potentially down to the transaction level (Cohen, 2009). The standardization of the data allows companies to submit the financial data to multiple agencies (for example the SEC and the IRS or the Department of Labor) once without repeating the process for each agency.

This project is intended to be the first time students are introduced to XBRL and does not assume prior exposure to XBRL. The purpose of this project is to familiarize students with XBRL, how it is being introduced into financial reporting in the US and globally, and how it can be used to extract publicly available data from the SEC's EDGAR database for a side-by-side comparison of two companies. Though the data for this project could have been taken from other sources (for example Compustat or Factiva), we use XBRL as the source of the data to introduce students to XBRL. We chose to use XBRL given its wide international acceptance and the fact that it has now become the de facto standard for the distribution of business reporting data (Piechocki, Falden, Gräning, & Debreceny, 2009). We have avoided incorporating into this project topics related to the technical aspect of generating XBRL reports or taxonomy issues, which are more appropriate for accounting information systems courses (Debreceny & Farewell, 2010). The project is designed for both graduate fundamentals of accounting courses and undergraduate intermediate accounting courses in which students are familiar with financial statements and are able to apply analytical techniques such as ratio analysis to evaluate and compare financial information. This project could also be used in an undergraduate introductory financial accounting course if the students have gained enough financial statement analysis knowledge. The project could be expanded to involve more detailed analysis, therefore making it appropriate for upper-level undergraduate or graduate financial statement analysis courses (see Appendix A for details).

2. Background

XBRL provides interactive financial data through a "tagging" process. It converts financial information contained in a document (financial report or other Word, Excel, PDF, etc. documents) into a computer file with XBRL codes, which makes the document computer readable. Once entered into a financial information database investors, analysts, and others can download data quickly in a format that facilitates analysis and multi-company or multi-period comparisons.

[3] The SEC is currently testing a prototype interactive data viewer and has made the source code available via their website. An example of an interactive data viewer based on the SEC's rendering engine is the RR Donnelley Interactive XBRL Viewer http://xbrlviewer.bowne.com/.

The initial development of the XBRL taxonomy and specific coding for many financial reporting purposes has been carried out internationally by a not-for-profit consortium of over 450 global financial service, technology and accounting organizations, as well as stock exchanges and governments over the past several years in a cooperative effort by academics, regulators, and others (Debreceny & Gray, 2001). In 2004, the SEC began preliminary actions to phase in XBRL-created reports by public companies through its Electronic Data Gathering and Retrieval (EDGAR) web portal. Companies were encouraged to participate in the SEC's Voluntary Filing Program (VFP). A key purpose of the voluntary program was to test the benefits of using XBRL and assist the SEC in assessing feasibility and desirability of using XBRL-tagged data on a more widespread basis. The SEC has mandated a three-year phase-in period for all publicly traded companies to provide XBRL-tagged quarterly reports beginning in 2011 (Securities & Exchange Commission, 2009; Debreceny, Farewell, Piechocki, Felden, & Granig, 2010).

There are various commercial products available to take advantage of XBRL's analytical capabilities.[4] These products provide the ability to take XBRL-tagged financial information and convert it into context-readable format for analysis and comparison. Some of these products are quite sophisticated and require purchase, licenses, and significant training to utilize. There are also some less robust, less costly (or even free) products that still allow for the type of analysis presented in this project. The SEC itself provides an XBRL reader.[5] In this project we use the *XBRL to Spreadsheet Converter* developed by ConnectCode Pte Ltd. (http://www.spreadsheetml.com/), which is available free of charge.

In this project students use XBRL data provided through the SEC (downloaded via the XBRL converter tool) to analyze two competitor companies: The Coca-Cola Company and PepsiCo, Inc. Students learn to import the data into Excel and then analyze financial results by using Excel formulas to generate key financial ratios. They then evaluate the performance of the two companies using these key financial ratios. To complete the assignment students should submit the following:

1. Word file with answer for Task 1.
2. Excel file and Word file for part I of Task 2.
3. Excel file and Word file for part II of Task 2.

3. The project

3.1. Task 1 – understanding the basics of interactive data and XBRL

The first part of the project focuses mainly on exposing the students to the basics of interactive data and XBRL. The following learning objectives are expected to be met by this first task.

1. Students will be able to identify XBRL and interactive data.
2. Students will be able to explain the benefits of interactive data.
3. Students will be able to define the basic concepts of XBRL.

In order to achieve these learning objectives, the task involves the following requirements.

1. Using your web browser, navigate to the XBRL International website at http://xbrl.org/.
2. Select the "What is XBRL" link on the upper left and gain a general understanding of XBRL and its benefits and uses.
3. Briefly explain the basic concepts and the potential benefits of interactive data and XBRL (no more than half a page).

3.2. Task 2 – Using the interactive data to analyze companies

The second part of the project focuses on teaching the students to find and extract XBRL company data. The following learning objectives are expected to be met by this task.

[4] Some of the commercial products include Edgar Online's I-Matrix and Rivet Software's Dragon View.
[5] A reader or viewer converts the interactive data into a human readable format.

1. Students will learn how to collect publicly available company data from the SEC's EDGAR database.
2. Students will gain practical experience by learning to use a software application to extract financial data.
3. Students will apply their existing accounting knowledge to analyze the extracted financial data.

In order to achieve these learning objectives, the task involves using a PC with the following (unfortunately this assignment cannot be completed on a Mac):

1. Microsoft Windows 2000 or a later version.
2. Microsoft Excel 2002 or a later version (with macros enabled).
3. Internet access.

3.2.1. Part I – single-company analysis

The SEC website has a collection of financial data in different formats. XBRL data are publicly available and can be directly collected from the SEC's EDGAR database. The database contains the final tagged statements (*Instance Documents*). To find and collect the data proceed with the following steps:

1. Navigate to http://sec.gov/. Near the middle of the page, under "Filings and Forms," select "Search for Company Filings," then select "Company or fund name, ticker symbol, Central Index Key (CIK), file number, state, country, or Standard Industrial Classification (SIC)."[6]
2. In the box asking for the company name, type in a company name (e.g. "PepsiCo") and click on the "Find Companies" button.
3. Filter the results by typing "10-K" in the "Filing Type" box, then click on "Search." The company's 10-Ks will be listed with the most recent on top. Next to the most recent 10-K, you will find two links. One is labeled "Documents" and the other is labeled "Interactive Documents." The "Documents" link will allow you to download the HTML and XBRL files related to the company's 10-K. The "Interactive Documents" link will take you to the SEC's viewer. Although the documents displayed may appear to be no different than an HTML file, the underlying information is tagged in a computer readable interactive format. If you click on the XBRL Instance Document under the "Documents" link (e.g., "pep-20091226.xml"), you will be able to view the underlying computer-readable "tagged" data.
4. Using your web browser, navigate to ConnectCode's XBRL to Spreadsheet Converter at http://www.spreadsheetml.com/finance/XBRLtoSpreadsheetConverter.shtml.
5. Scroll down the page and download the XBRL to Spreadsheet Converter – v1.0. Save the compressed (zipped) file to your desktop and extract the files (right click on the file and select Extract All).
6. In the extracted folder, locate the file *FinancialStatementsExtractor.xls*, and open the file. The following spreadsheet should appear asking you for the location of the XBRL Instance to extract (as seen in Fig. 1[7]).
7. Return to your web browser and navigate to the SEC's EDGAR database at http://www.sec.gov/edgar.shtml. Near the middle of the page, select "Search for Company Filings," then select "Company or fund name, ticker symbol, Central Index Key (CIK), file number, state, country, or Standard Industrial Classification (SIC)."
8. Enter "PepsiCo" in the box asking for the company name and click on the "Find Companies" button.
9. Filter the results by typing "10-K" in the "Filing Type" box, then click on "Search." The company's 10-Ks will be listed with the most recent one on top.
10. Click on the "Documents" link. One of the data files listed is an "XBRL Instance Document." Right click on the file "pep-20091226.xml" and select "Copy Shortcut." This will copy the location of the file on the SEC's website.

[6] The navigation path is based on the current SEC website as of December 2011.

[7] The screen shots are based on Microsoft Excel 2010. The directions are the same regardless of the version of Microsoft Excel used.

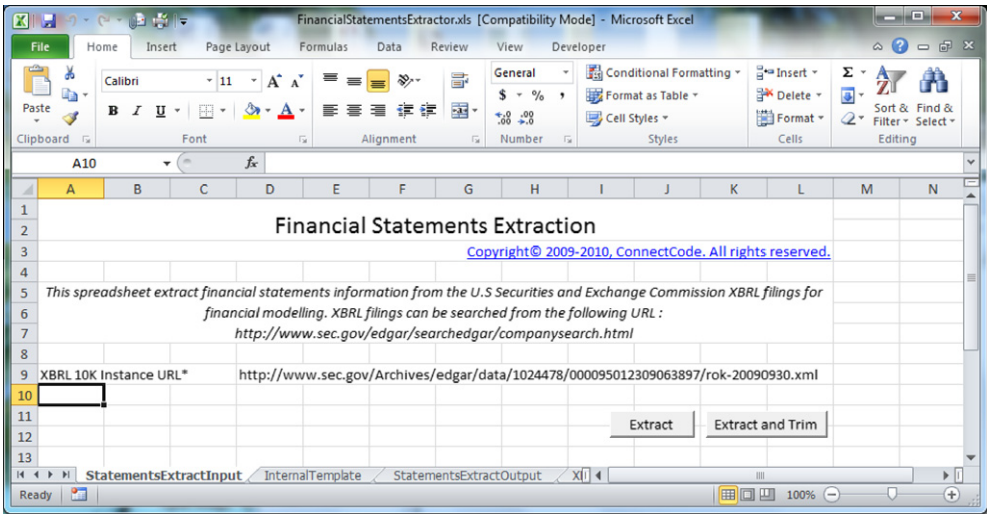


Fig. 1. XBRL to spreadsheet converter.

11. Return to the Excel spreadsheet you opened in step 3. Paste the copied file location where the current URL is located (i.e., cell D9), then click on "Extract and Trim." The following spreadsheet will be created showing you the financial data extracted from the XBRL file (as seen in Fig. 2).[8]

3.2.1.1. Financial analysis.

1. Evaluate the financial performance of the company by calculating the following ratios using Excel functions:
   - Current ratio (i.e., current assets/current liabilities).
   - Net profit margin (i.e., net income/revenue).
   - Debt to equity ratio (i.e., Total Liabilities/Shareholders' Equity).
2. Evaluate the trends for the ratios calculated above as well as for revenue and net income over the last couple of years. You may want to graph the data to more easily examine the trends.[9] (*Hint*: you can use the "Find…" option in Excel to find the items you need for the analysis.)
3. Submit a one-page analysis of the financial condition of Pepsi, as indicated by the data you examined. Your analysis should be focused on discussing the calculated ratios, revenue and net income of the two companies relative to each other. You should not use any other sources.
4. As an accompaniment to the above, submit the spreadsheet used in your analysis. Your calculations and graphs (if created) should be on a separate tab (worksheet) in the spreadsheet (workbook).

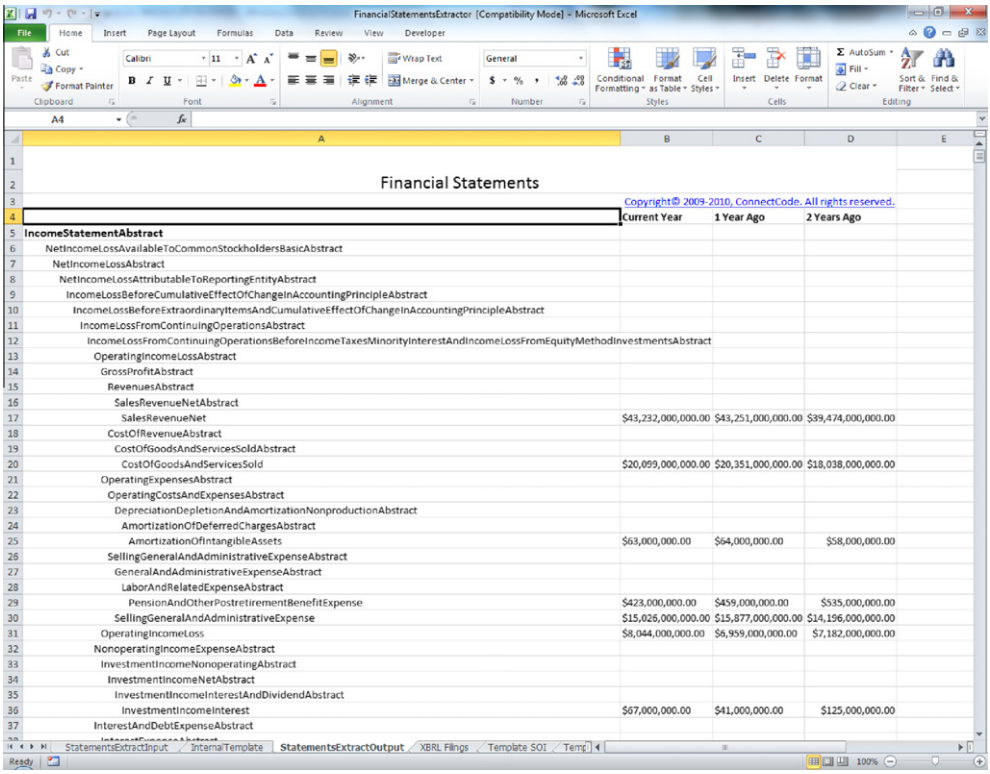
3.2.2. Part II – multiple-company comparison

The XBRL to spreadsheet tool can be used to facilitate multiple company comparisons. Since the tool downloads information categories that are the same across all reporting companies, the spreadsheets can be combined for further analysis.

1. On the spreadsheet that was used to extract the data for PepsiCo, use the "Save As" function to save it under a different name (to avoid losing the work done in Part I). Once saved, select the

[8] To improve the readability of the extracted data you could consider showing the data in thousands or millions of dollars. To do this you would create a new number format for the numeric cells. To convert the data, highlight the cells, right click on them and select "Format Cells…" from the provided menu. Under the "Custom" category, type $#,#, in the "Type" box to convert to thousands of dollars. To convert to millions of dollars, type $#,#,,.### in the "Type" box.

[9] If you are using Microsoft Excel 2010, you could also use "Sparklines" to easily spot patterns and trends in the data. This new feature can be found under the "Insert" tab.



FinancialStatementsExtractor [Compatibility Mode] - Microsoft Excel

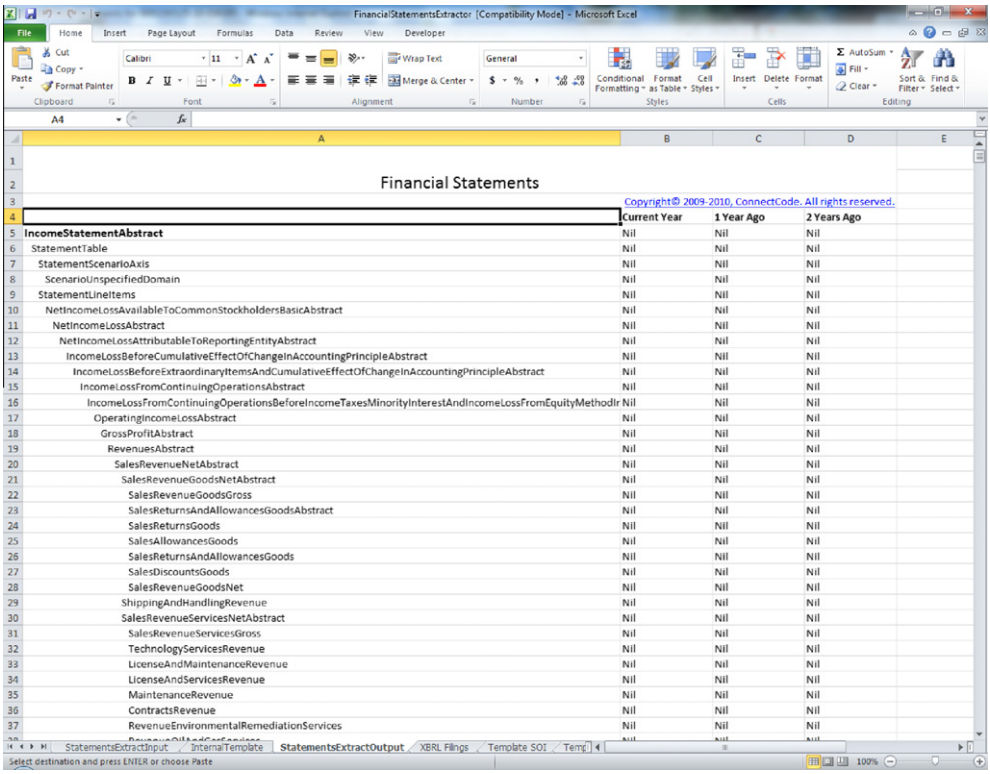
Financial Statements

	Current Year	1 Year Ago	2 Years Ago
IncomeStatementAbstract			
NetIncomeLossAvailableToCommonStockholdersBasicAbstract			
NetIncomeLossAbstract			
NetIncomeLossAttributableToReportingEntityAbstract			
IncomeLossBeforeCumulativeEffectOfChangeInAccountingPrincipleAbstract			
IncomeLossBeforeExtraordinaryItemsAndCumulativeEffectOfChangeInAccountingPrincipleAbstract			
IncomeLossFromContinuingOperationsAbstract			
IncomeLossFromContinuingOperationsBeforeIncomeTaxesMinorityInterestAndIncomeLossFromEquityMethodInvestmentsAbstract			
OperatingIncomeLossAbstract			
GrossProfitAbstract			
RevenuesAbstract			
SalesRevenueNetAbstract			
SalesRevenueNet	$43,232,000,000.00	$43,251,000,000.00	$39,474,000,000.00
CostOfRevenueAbstract			
CostOfGoodsAndServicesSoldAbstract			
CostOfGoodsAndServicesSold	$20,099,000,000.00	$20,351,000,000.00	$18,038,000,000.00
OperatingExpensesAbstract			
OperatingCostsAndExpensesAbstract			
DepreciationDepletionAndAmortizationNonproductionAbstract			
AmortizationOfDeferredChargesAbstract			
AmortizationOfIntangibleAssets	$63,000,000.00	$64,000,000.00	$58,000,000.00
SellingGeneralAndAdministrativeExpenseAbstract			
GeneralAndAdministrativeExpenseAbstract			
LaborAndRelatedExpenseAbstract			
PensionAndOtherPostretirementBenefitExpense	$423,000,000.00	$459,000,000.00	$535,000,000.00
SellingGeneralAndAdministrativeExpense	$15,026,000,000.00	$15,877,000,000.00	$14,196,000,000.00
OperatingIncomeLoss	$8,044,000,000.00	$6,959,000,000.00	$7,182,000,000.00
NonoperatingIncomeExpenseAbstract			
InvestmentIncomeNonoperatingAbstract			
InvestmentIncomeNetAbstract			
InvestmentIncomeInterestAndDividendAbstract			
InvestmentIncomeInterest	$67,000,000.00	$41,000,000.00	$125,000,000.00
InterestAndDebtExpenseAbstract			

Fig. 2. Extracted data for PepsiCo, Inc. using the "Extract and Trim" option.

"StatementsExtractInput" tab at the bottom left of the spreadsheet. Click on the "Extract" button rather than the "Extract and Trim" button. In the previous task we used the "Extract and Trim" option, which extracts just the line items that the company reported (deleting any "Nil" items from the spreadsheet). In the multi-company analysis part of the project, we use the "Extract" option for both companies because we would like the items reported by each company to line up. The advantage of using the extract option is that this way you can create your formulas once for one column, then copy them to the next set of columns without worrying about the wrong numbers being used because of the items of the two companies not being aligned. The following spreadsheet will be created showing you the financial data extracted from the XBRL file. You will notice many "Nil" values for the items that are not reported by the company (as seen in Fig. 3).

2. Once extracted, select the entire spreadsheet with the extracted data (i.e. the "StatementsExtractOutput" tab) and copy it. Open a new blank spreadsheet and paste the output.
3. Return to your web browser and navigate to the SEC's EDGAR database at http://www.sec.gov/edgar.shtml.
4. Near the middle of the page, select "Search for Company Filings," then select "Company or fund name, ticker symbol, Central Index Key (CIK), file number, state, country, or Standard Industrial Classification (SIC)."
5. Enter "Coca-Cola Co" in the box asking for the company name, then click on the "Find Companies" button.
6. Filter the results by typing "10-K" in the "Filing Type" box, then click on "Search." The company's 10-Ks will be listed with the most recent one on top.
7. Click on the "Documents" link. One of the data files listed is an XBRL Instance Document (EX-101.INS). Right click on the file "ko-20091231.xml" and select "Copy Shortcut." This will copy the location of the file on the SEC's website.



FinancialStatementsExtractor [Compatibility Mode] - Microsoft Excel

Financial Statements

	Current Year	1 Year Ago	2 Years Ago
IncomeStatementAbstract	Nil	Nil	Nil
StatementTable	Nil	Nil	Nil
StatementScenarioAxis	Nil	Nil	Nil
ScenarioUnspecifiedDomain	Nil	Nil	Nil
StatementLineItems	Nil	Nil	Nil
NetIncomeLossAvailableToCommonStockholdersBasicAbstract	Nil	Nil	Nil
NetIncomeLossAbstract	Nil	Nil	Nil
NetIncomeLossAttributableToReportingEntityAbstract	Nil	Nil	Nil
IncomeLossBeforeCumulativeEffectOfChangeInAccountingPrincipleAbstract	Nil	Nil	Nil
IncomeLossBeforeExtraordinaryItemsAndCumulativeEffectOfChangeInAccountingPrincipleAbstract	Nil	Nil	Nil
IncomeLossFromContinuingOperationsAbstract	Nil	Nil	Nil
IncomeLossFromContinuingOperationsBeforeIncomeTaxesMinorityInterestAndIncomeLossFromEquityMethodIr	Nil	Nil	Nil
OperatingIncomeLossAbstract	Nil	Nil	Nil
GrossProfitAbstract	Nil	Nil	Nil
RevenuesAbstract	Nil	Nil	Nil
SalesRevenueNetAbstract	Nil	Nil	Nil
SalesRevenueGoodsNetAbstract	Nil	Nil	Nil
SalesRevenueGoodsGross	Nil	Nil	Nil
SalesReturnsAndAllowancesGoodsAbstract	Nil	Nil	Nil
SalesReturnsGoods	Nil	Nil	Nil
SalesAllowancesGoods	Nil	Nil	Nil
SalesReturnsAndAllowancesGoods	Nil	Nil	Nil
SalesDiscountsGoods	Nil	Nil	Nil
SalesRevenueGoodsNet	Nil	Nil	Nil
ShippingAndHandlingRevenue	Nil	Nil	Nil
SalesRevenueServicesNetAbstract	Nil	Nil	Nil
SalesRevenueServicesGross	Nil	Nil	Nil
TechnologyServicesRevenue	Nil	Nil	Nil
LicenseAndMaintenanceRevenue	Nil	Nil	Nil
LicenseAndServicesRevenue	Nil	Nil	Nil
MaintenanceRevenue	Nil	Nil	Nil
ContractsRevenue	Nil	Nil	Nil
RevenueEnvironmentalRemediationServices	Nil	Nil	Nil

StatementsExtractInput | InternalTemplate | StatementsExtractOutput | XBRL Filings | Template SOI | Temp

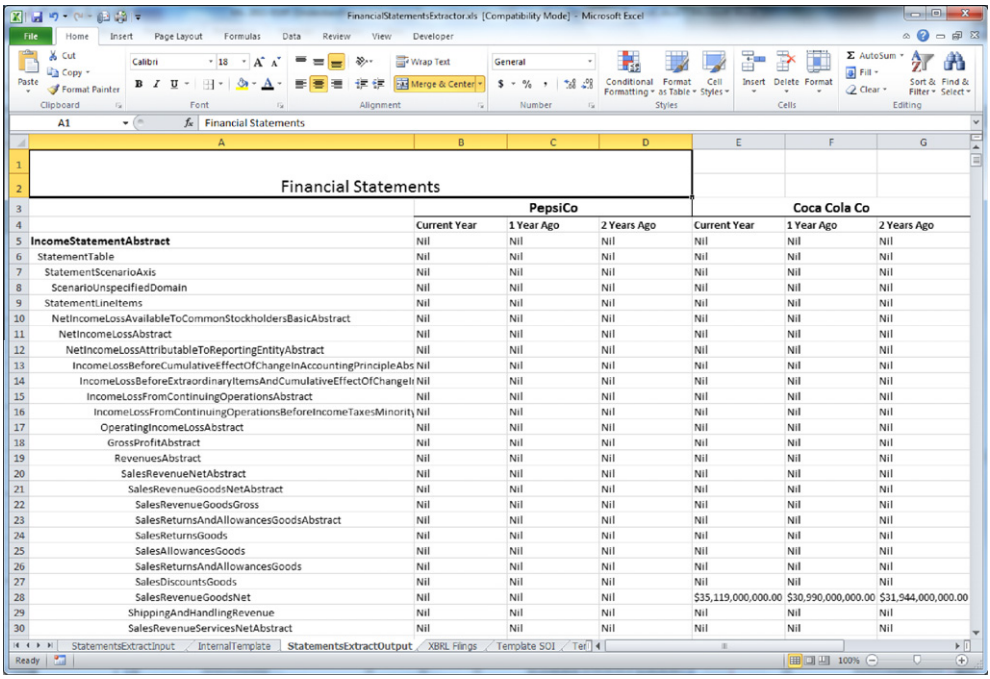
Select destination and press ENTER or choose Paste

Fig. 3. Extracted data for PepsiCo, Inc. using the "Extract" option.

8. Return to the Excel spreadsheet you saved in step 1. Paste the copied file location where the current URL is located (i.e. cell D9), then click on "Extract."
9. Once extracted, select columns B–D from the extracted data (i.e. the "StatementsExtractOutput" tab) and copy them. On the newly created spreadsheet with the pasted PepsiCo data, paste the Coca Cola Co data into columns E–G. As seen in Fig. 4, you now have a spreadsheet with 3 years of data from two companies that can be compared side-by-side (Hint: to avoid confusion as you complete the task you can label the columns of the two companies).

3.2.2.1. Financial analysis.

1. Evaluate and compare the financial health of both companies by calculating the following ratios using Excel functions:
   - Current ratio.
   - Net profit margin.
   - Debt to equity ratio.
2. Evaluate and compare the trends for the ratios calculated above as well as for revenue and net income over the last couple of years. You may want to graph the data to more easily examine the trends. (*Hint*: you can use the "Find. . ." option in Excel to find the items you need for the analysis.)
3. Submit a one-page analysis of the financial condition of the two companies. Your analysis should be focused on discussing the findings of the ratios and revenue and net income. You should not use any other sources.
4. Along with your one-page summary, submit the spreadsheet used in your analysis. Your calculations and graphs (if created) should be on a separate tab in the spreadsheet.



		PepsiCo			Coca Cola Co		
		Current Year	1 Year Ago	2 Years Ago	Current Year	1 Year Ago	2 Years Ago
5	IncomeStatementAbstract	Nil	Nil	Nil	Nil	Nil	Nil
6	StatementTable	Nil	Nil	Nil	Nil	Nil	Nil
7	StatementScenarioAxis	Nil	Nil	Nil	Nil	Nil	Nil
8	ScenarioUnspecifiedDomain	Nil	Nil	Nil	Nil	Nil	Nil
9	StatementLineItems	Nil	Nil	Nil	Nil	Nil	Nil
10	NetIncomeLossAvailableToCommonStockholdersBasicAbstract	Nil	Nil	Nil	Nil	Nil	Nil
11	NetIncomeLossAbstract	Nil	Nil	Nil	Nil	Nil	Nil
12	NetIncomeLossAttributableToReportingEntityAbstract	Nil	Nil	Nil	Nil	Nil	Nil
13	IncomeLossBeforeCumulativeEffectOfChangeInAccountingPrincipleAbs	Nil	Nil	Nil	Nil	Nil	Nil
14	IncomeLossBeforeExtraordinaryItemsAndCumulativeEffectOfChangeIi	Nil	Nil	Nil	Nil	Nil	Nil
15	IncomeLossFromContinuingOperationsAbstract	Nil	Nil	Nil	Nil	Nil	Nil
16	IncomeLossFromContinuingOperationsBeforeIncomeTaxesMinority	Nil	Nil	Nil	Nil	Nil	Nil
17	OperatingIncomeLossAbstract	Nil	Nil	Nil	Nil	Nil	Nil
18	GrossProfitAbstract	Nil	Nil	Nil	Nil	Nil	Nil
19	RevenuesAbstract	Nil	Nil	Nil	Nil	Nil	Nil
20	SalesRevenueNetAbstract	Nil	Nil	Nil	Nil	Nil	Nil
21	SalesRevenueGoodsNetAbstract	Nil	Nil	Nil	Nil	Nil	Nil
22	SalesRevenueGoodsGross	Nil	Nil	Nil	Nil	Nil	Nil
23	SalesReturnsAndAllowancesGoodsAbstract	Nil	Nil	Nil	Nil	Nil	Nil
24	SalesReturnsGoods	Nil	Nil	Nil	Nil	Nil	Nil
25	SalesAllowancesGoods	Nil	Nil	Nil	Nil	Nil	Nil
26	SalesReturnsAndAllowancesGoods	Nil	Nil	Nil	Nil	Nil	Nil
27	SalesDiscountsGoods	Nil	Nil	Nil	Nil	Nil	Nil
28	SalesRevenueGoodsNet	Nil	Nil	Nil	$35,119,000,000.00	$30,990,000,000.00	$31,944,000,000.00
29	ShippingAndHandlingRevenue	Nil	Nil	Nil	Nil	Nil	Nil
30	SalesRevenueServicesNetAbstract	Nil	Nil	Nil	Nil	Nil	Nil

Fig. 4. Spreadsheet with side-by-side data from PepsiCo and the Coca Cola Co for comparison.

4. Teaching notes

4.1. Overview

The purpose of this project is to introduce business and accounting students to the application of eXtensible Business Reporting Language (XBRL) through the use of interactive data. Students learn to download the financial reports of two companies in the same industry. Then, using traditional financial analysis techniques (ratio analysis), and by examining trends in sales and net income, students can compare the results of these companies and form opinions. Thus, the project accomplishes two important objectives. It introduces students to the benefits and features of XBRL-tagged financial reporting and interactive data. Second, the project shows how this medium can be used to analyze financial statements. The project uses free, publicly available interactive data tools to accomplish these objectives.

Instructors have considerable flexibility in the choice of how basic or complex to make this project in terms of the financial statement analysis aspect. We have restricted the analysis to only three financial ratios (current ratio, net profit margin, and debt-to-equity ratio) because we want to focus more on the introduction to XBRL and less on the financial statement analysis aspect. This focus can easily be changed by requiring students to complete a more in-depth analysis using changes over time (horizontal analysis), vertical analysis and the calculation of additional financial ratios. In Appendix A we offer some suggestions for expanding the project.

4.2. Sample solutions

Since we refer the students to specific companies and specific financial statements, here are the sample answers to the assignments. Students may present graphs to show the changes in the ratios. Instructors may decide to make graphing a requirement, thus encouraging students to learn this

function in Excel.[10] We offer a grading rubric in Appendix B to help instructors with grading the assignment. Instructors may obviously choose to modify this rubric and potentially make this rubric available to students to clearly state their expectations. The numerical calculations are presented in Exhibit 1.

4.2.1. Task 1 – understanding the basics of interactive data and XBRL

In answering this task, students should include the fact that XBRL is a computer language part of the XML family of languages. The basic concept behind XBRL is to tag pieces of business information instead of treating them as blocks of text. These tags make the information computer readable and thus increasing the speed associated with handling this information and reducing errors as the information can be automatically checked.

In addition, students may include the fact that adopting XBRL reduces costs on both the producer and consumer side of the information as it enables automating large parts of the data handling. The data can be now checked and validated with significant ease diminishing the likelihood for errors.

4.2.2. Part I of Task 2 – analysis of Pepsi Co.

4.2.2.1. Liquidity. At the end of fiscal 2009, Pepsi Co. had a current ratio of 1.44, meaning that the company's current assets were 1.44 larger than its current liabilities. Since the company's current assets are larger than its current liabilities the company is considered liquid. Based on this ratio, Pepsi had $1.44 available in current assets to cover each $1.00 of its current liabilities. In comparison, at the end of 2008 Pepsi's current ratio was 1.23, which is 0.21 lower than it was in year-end 2009. The comparison between 2008 and 2009 suggests that the company was liquid in both years (current assets were larger than current liabilities) and that Pepsi's liquidity increased over time. Both reflect favorably on the company.[11]

4.2.2.2. Profitability. Pepsi Co.'s revenues have been stable for the past two years; $43.232 M in 2009 and $43.251 M in 2008. Pepsi generated $3.777 M more revenue in 2008 than in 2007. In 2009, the company reported a $5.946 M net income, while the revenue slightly decreased from 2008, suggesting that the company's expenses decreased during fiscal 2009, in comparison to 2008. In addition, it is important to highlight, that although in 2007 Pepsi recorded lower revenues ($39.474 M), its net income ($5.670 M) was higher than Pepsi's net income in 2008 ($5.142 M).

Over the period 2007 to 2009, Pepsi has maintained a relatively stable net profit margin, with somewhat a decline in 2008. In 2009 Pepsi had a net profit margin of 13.75%, in comparison to 11.89% in 2008 and 14.33% in 2007.

Overall, Pepsi is profitable and seems to be doing well, with a stable increase in revenue and a relatively stable profit margin. More analysis is needed to examine the reasons behind the decline in net income and Profit Margin in 2008.

4.2.2.3. Solvency. Pepsi's Debt-to-Equity (D/E) ratio was 1.92 by the end of fiscal 2009 and 1.33 by the end of fiscal 2008. Suggesting that the company finances its assets by more debt than equity (shown by a D/E ratio which is larger than 1). Pepsi was able to lower its D/E ratio by almost 0.59 points from 2008 to 2009, signifying its lower reliance on debt and that it has reduced its debt over time. Pepsi's D/E ratio in 2009 is considered less risky than 2008. Overall the company seems to have a solid capital structure.

4.2.3. Part II of Task 2 – multiple company comparison

4.2.3.1. Liquidity. Coca-Cola Co. had a current ratio of 1.28 at the end of fiscal 2009, and a current ratio of 0.94 at the end of fiscal 2008. Based on these ratios Coca-Cola has significantly improved its current ratio and went from being illiquid in 2008 (current assets were lower than current liabilities) to being liquid in 2009.

[10] Instructors may also consider asking students to experiment with "Sparklines" if they are using Microsoft Excel 2010. A brief tutorial on this function is available in Jelen (2011).

[11] Further analysis (for example examining the "quick ratio") may be needed to ensure this increase in current ratio is not the result of an increase in inventory which is typically seen not as favorably.

Comparing the two companies shows that Pepsi is more liquid than Coca-Cola in both years. It is apparent that Pepsi has more current assets available to cover its short-term liabilities than its primary competitor.

4.2.3.2. Profitability. Coca-Cola Co. has maintained a relatively stable stream of revenues from 2007 ($28.857 M) to 2009 ($30.990 M) with an increasing trend. In 2009, the company reported $6.824 M in net income compared to $5.807 M in 2008 and $5.981 M in 2007, again showing an increasing trend. Over the period 2007 to 2009, Coca-Cola showed a similar increasing trend in its net profit margin, going from 20.73% in 2007 to 22.02% in 2009.

A comparison between Pepsi Co. and Coca-Cola Co. shows that while Pepsi reported higher revenues for 2007, 2008, and 2009 than Coca-Cola, Coca-Cola's net income was higher. This finding is more apparent by comparing the two companies' net profit margins, which shows Pepsi in a net profit margin range of 12–14%, while Coca-Cola has a net profit margin in the 18–22%.

Overall, Coca-Cola seems to be more profitable and efficient than Pepsi.

4.2.3.3. Solvency. Coca-Cola Co.'s debt-to-equity ratio was 0.92 by the end of fiscal 2009 and 0.94 by the end of fiscal 2008, suggesting that the company finances its assets by more equity than debt (shown by a D/E ratio which is smaller than 1). The D/E ratio is close to 1 in both years indicating that in both years the company's financing is roughly half debt and half equity.

In comparison to Pepsi, Coca-Cola maintains a significantly lower debt-to-equity ratio for year-end 2009 and 2008. Coca-Cola relies far less on debt than Pepsi suggesting that Coca-Cola is less risky and more solvent than Pepsi.

4.3. Student feedback

The project was given as an extra credit assignment worth 5% of a student's final grade. We tested two different versions of this project in graduate introductory financial accounting classes. The two versions used were very similar. The instructions and requirements on the second version were clarified based on the feedback we received from students on the first run. After completing the project, the students were asked to complete a feedback form presented in Exhibit 2. A total of 39 students completed the survey (100% of those completing the assignment). Many of the responses by the students were very similar or repetitive with over 90% of the student feedback indicating a positive learning experience. In particular, the students' primary comment was that they were not aware of the existence of XBRL and interactive data and were able to learn a lot about those topics. The students were excited to go through a "hands on" exercise rather than just learning about XBRL in class. In particular, students found it interesting and useful to be able to put the financial statements of two companies side by side, comparing "apples to apples." Students appreciated the fact that the project focused on the introduction and exposure to XBRL rather than detailed financial statement analysis.

Some of the feedback concerned some technical difficulties in getting the converter to work or finding the different accounts in the converted documents. For example, the converter we use does not work on a Mac. As a result of this feedback, we have clarified the instructions and included some screen shots to help students in this process. We include a sample of the actual responses we received from students in Appendix C.[12]

4.4. Implementation guidance

There are several steps that we recommend taking before implementing this project. First, we suggest making clear to the students that the purpose of the project is to expose them to a new concept and tool, XBRL, allowing them to "get their hands dirty" with the data. An additional important point to clarify is that a significant limitation to our project is the fact that we use a free spreadsheet converter to convert the data from the XBRL document to an Excel worksheet. Though several vendors

[12] This is a representative sample of all of the responses received with similar or repetitive comments excluded.

offer fee-based software to do this conversion (e.g. Edgar Online) we decided to use free software that would then be available for all students to use. The main problem with using this free software is that it is not as 'user friendly' as the fee-based software. Students may be unhappy because of the amount of technical work they need to do to convert the XBRL documents and use them for analysis, but it is our opinion and experience that this effort is worth it in exchange for acquiring the knowledge about XBRL and interactive data.[13]

The project, as we have presented it, focuses much more on XBRL and the mechanical steps of extracting the data in preparation for financial analysis. The actual financial analysis component is purposely minimal but can be expanded. The depth of financial analysis could include the calculation of additional financial ratios, using multiple years' results, creating expanded tables, graphs and various other written assignments related to the analysis of these calculations. Appendix A illustrates one such expansion. The next section includes specific problems students may experience and our suggested solutions.

4.5. Problems student may encounter

Following are a list of some potential problems students may encounter when completing this project and suggested solutions to the problems.

- Cannot use the spreadsheet converter software
  The student is likely using a Mac. Unfortunately the software only works on a PC and cannot run on a Mac.
- The macros do not work
  The student must enable macros on Excel for the converter software to work.
- There are many 'Nil' values in the downloaded XBRL document
  By choosing the "extract", as opposed to the "Extract and Trim" option the students will download a document that has all XBRL tags. Values would only appear in the tags used by the company. This is perfectly fine and is not a problem. The students can use the find function in Excel to look for specific accounts (e.g. Current Liabilities).

Exhibit 1 – numerical calculations for sample solutions

Part I of Task 2	Part II of Task 2
Pepsi Co.	**Coca-Cola Co.**
Current ratio	**Current ratio**
2009	2009
12.571 M/ 8.756 M = 1.44	17.551 M/ 13.721 M = 1.28
2008	2008
10.806 M/ 8.787 M = 1.23	12.176 M/ 12.988 M = 0.94
Profit Margin	**Profit Margin**
2009	2009
5.946 M/ 43.232 M = 13.75%	6.824 M/ 30.990 M = 22.02%
2008	2008
5.142 M/ 43.251 M = 11.89%	5.807 M/ 31.944 M = 18.18%
2007	2007
5.658 M/ 39.474 M = 14.33%	5.981 M/ 28.857 M = 20.73%
Debt to Equity	**Debt to Equity**
2009	2009
22.406/ 16.908 M = 1.33	23.325 M/ 25.346 M = 0.92

(*continued on next page*)

[13] If the link to the converter we include in the project were to be broken we would be happy to provide a copy of the software upon request.

Exhibit 1 (*continued*)

Part I of Task 2	Part II of Task 2
2008	2008
23.412 M/ 12.203 M = 1.92	19.657 M/ 20.862 M = 0.94
Revenues	**Revenues**
2009 – $43.232 M	2009 – $30.990 M
2008 – $43.251 M	2008 – $31.994 M
2007 -$39.474 M	2007 -$28.857 M
Net income	**Net income**
2009 – $5.946 M	2009 – $6.824 M
2008 – $5.142 M	2008 – $5.807 M
2007 – $5.658 M	2007 – $5.981 M

Exhibit 2 – feedback questions

Please answer the following questions with as much detail as possible:

1. Were the instructions clear and understandable? What could be explained better?
2. What did you find difficult in these tasks? What did you find easy in these tasks?
3. How did this task help you to learn about XBRL and interactive data?
4. What did you find useful about this task in helping you learn to find, extract and use XBRL Documents?
5. Did this project help you to evaluate the two companies?
6. How can we improve this task? What can we add? What should we take out?

Thank you. We appreciate your comments.

Appendix A. Suggestions for expanding the financial analysis component of the XBRL project

The XBRL project can be expanded into a broader financial analysis assignment. The purpose, in addition to introducing the features of XBRL, is to show that a firm's publicly available financial information broadly presents the achievements and suggests future directions of its business activity. This can be achieved by requiring calculation of additional financial ratios, using multiple years' results, creating expanded tables and graphs, and various written assignments related to analysis of the results. One example is shown here:

Select a US, publicly traded company for analysis. It is not recommended that you use a firm in the finance or insurance industries. Make sure that it meets the approval of your instructor. Then using the spreadsheet converter feature, download the financial statements of your company onto a spreadsheet (see "Using the Interactive Data to Analyze Companies" section of the project), and in a 5–6 page paper describe its business and analyze its financial statements in light of the objectives communicated in the annual reports, the financial press, or other reliable sources. This analysis should include comparative information from prior years and other companies in its industry (or use industry averages).

A.1. Suggested format

In the first section of the paper (about 2–21/2 pages), introduce your firm. Summarize the industry and discuss the competitive position in that industry your firm has carved for itself.

In the next section of the paper (2 1/2–3 1/2 pages) apply some (e.g., 3–6) of the 12 ratios shown to illustrate the observations you made in the first part of the paper. The ratios should be relevant to the discussion (e.g., current ratio is unlikely to be insightful for Pepsi and Coke). **Do not** define or give the general purpose of the ratio. (For example, the following is not appropriate for your paper. "Current

ratio is the current assets divided by the current liabilities. This ratio indicates the company's ability to pay its bills in the short run. . .").

Finally, provide a conclusion with your recommendation of the company as a potential investment. Be sure to refer to the results of your analysis in forming your opinion.

A.2. Appendix

Present an additional one-page table of calculations for the ratios (listed on handout) for the latest two years and industry comparisons. You do not need all the ratios and may include others.

Administrative details:

- The paper should be double-spaced with the appendix and a cover page listing the title, your name, section, and the date.
- The page limit is firm.
- Provide a list of any references used.
- Firms must be publicly held, reporting on US stock exchanges and may not be financial firms.

Table of ratios

Ratio	**Components**	**Use or meaning**
Liquidity ratios		
Current ratio	Current assets/Current liabilities	Measure of short-term debt-paying ability
Quick ratio	Cash + short-term investment + receivable/ Current liabilities	Measure of short-term liquidity
Receivable turnover	Net sales/ Average accounts receivable	Measure of relative size of acc. Receivable balance and effectiveness of credit policies
Average day's sales uncollected	Day's in year/receivable turnover	Measure of times it takes to collect an average receivable
Inventory turnover	Cost of goods sold/average inventory	Measure of realize size of inventory
Profitability		
Profit margin	Net income/net sales	Income produced by each dollar of sales
Asset turnover	Net sales/average total assets	Measure of how efficiently assets are used to produce sales
Return on assets	Net income/average total assets	Overall measure of earning power or profitability of all assets employed in the business
Return on equity	Net income/average owner's equity	Profitability of owner's investment
Earnings per share	Net income/outstanding shares	Means of placing earnings on a common basis for comparisons
Long-term solvency ratios		
Debit to equity ratio	Total liabilities/owner's equity	Measure of relationship of debt financing to equity financing. A company with debt is said to be leveraged
Interest coverage ratio	net income before taxes + interest expense/ Interest expense	Measure of protection of creditors from a default on interest payments

Appendix B. Assessment rubric

Assignment	Developing	Competent	Exemplary
Part I: Explanation of the basic concepts and potential benefits of interactive data and XBRL	Lacks basic knowledge of XBRL and interactive data and poorly explains potential benefits	Shows clear understanding of basic concepts and potential benefits	Is able to tie in XBRL concepts and benefits with broader global accounting initiatives
Part 2 Task 1: Use the XBRL converter to set up your spreadsheet – single company 1. Download and extract the XBRL to Spreadsheet Converter. 2. Open the FinancialStatementsExtractor.xls spreadsheet. 3. Locate and copy the URL for PepsiCo's 10-K XBRL Instance Document. 4. Correctly extract the data from the XBRL file by pasting the URL in the correct cell (cell D9) of the FinancialStatementExtractor.xls spreadsheet and using the "Extract and Trim" button. 5. Proceed with the financial analysis.	Failed to extract the data using the "Extract and Trim" button properly.	Correctly extracted the data using the "Extract and Trim" button.	1. Correctly extracted the data using the "Extract and Trim" button 2. Formatted spreadsheet to include totals formulas, proper underlining, highlighted and other enhancements 3. Created graphs
Ratio Analysis – single company • Current ratio • Profit Margin • Debt to Equity One-page analysis	Poor ratio formula calculation, lack of understanding of results	Understands how to calculate the basic ratios and interpret results	Shows clear understanding of the importance of ratio analysis. Demonstrates strong ability to interpret results

Part 3 Task 1: Use the XBRL converter to set up your spreadsheet – two company comparison 1. Extract the data for PepsiCo using the "Extract" button. 2. Copy the extracted data to a blank spreadsheet. 3. Locate and copy the URL for Coca-Cola Co's 10-K XBRL Instance Document. 4. Correctly extract the data from the XBRL file by pasting the URL in the correct cell (cell D9) of the FinancialStatementExtractor.xls spreadsheet and using the "Extract" button. 5. Copy columns B, C, and D from the extracted data and paste them into cells E, F, and G of the newly created spreadsheet with PepsiCo's data. 6. Proceed with the financial analysis.	1. Failed to extract the data using the "Extract" button. 2. the correct XBRL Instance Documents were not used for both companies. 3. Failed to setup the spreadsheet with the data for the two companies (i.e. used "Extract" not "Extract and Trim" and copied the correct columns into the correct locations). 4. Did not label the columns in the multi-company spreadsheet to avoid confusion.	1. Correctly extracted the data using the "Extract" button. 2. The correct XBRL Instance Documents were used for both companies. 3. Correctly setup the spreadsheet with the data for the two companies (i.e. used "Extract" not "Extract and Trim" and copied the correct columns into the correct locations). 4. Labeled the columns in the multi-company spreadsheet to avoid confusion.	1. Correctly extracted the data using the "Extract" button. 2. The correct XBRL Instance Documents were used for both companies. 3. Correctly setup the spreadsheet with the data for the two companies (i.e. used "Extract" not "Extract and Trim" and copied the correct columns into the correct locations). 4. Labeled the columns in the multi-company spreadsheet to avoid confusion. 5. Formatted spreadsheet to include totals formulas, proper underlining, highlighted and other enhancements 6. Created graphs
Ratio analysis – two companies 1. Current ratio 2. Profit margin 3. Debt to equity One-page analysis	Poor ratio formula calculation, lack of understanding of results	Understands how to calculate ratios and interpret results	1. Shows clear understanding of the importance of ratio analysis 2. Provides detailed analysis arriving at a strong conclusion

Appendix C

Responses from students in a graduate introductory financial accounting to feedback questions.

1. **Were the instructions clear and understandable? What could be explained better?**
   - The instructions, on the whole, were very clear and understandable. The html addresses were all correct, as were the SEC instructions. The only part that I could see being explained better is what the spreadsheet will look like while performing the "Extract" function, rather than the "Extract and Trim".
   - The instructions were clear and understandable, although I had problems with trying to use the MAC – which you cannot extract info for the Interactive database. I don't think they could be explained any better – although now, I hope I did everything correctly. I will add that I had to disable Macros – something my computer did not want me to do - to effectively pull-in the data.
   - As I had little knowledge on computer-based works, I had read the instructions 4 times before I started the assignment. When I first read the instructions, it was a little hard to understand what they actually meant. However, as I read more and more, they became clear and clear. At the time I started my assignment in front of the computer, I came to realize that the instructions had been written really clearly and understandably. I had little trouble in doing the work, because my professor explained from the very basic such as selecting keys and even the exact file names. Thanks to that, I could do the assignment without any trouble. I think the explained instructions were almost perfect.
   - I felt the instructions provided for this project were very clear and concise. I was able to progress through the steps with no difficulty.
   - The instruction is very clear and understandable. It provides step by step process details which allow student easy to get information from SEC website and to convert the interactive data from website to the Excel program. Moreover, the instruction helps students understand the task right after the first read. I think the instruction is perfect and it does not need to revise because the instruction has already provided enough information and details for student to complete the task without confusion.
   - Yes, the instructions were clear and understandable. I followed the instructions and everything worked well for me. I do not think that we need any change in the instruction.
   - The instructions were very understandable. I do not have any areas I felt could have been improved.
2. **What did you find difficult in these tasks? What did you find easy in these tasks?**
   - All of the tasks were fairly easy, once you get the hang of what you're looking for and how the data should appear within the spreadsheet. The Extract and Trim seemed to me be the more correct, or should I say, cleanest way of extracting the data. As simply pulling via the Extract button pulled in 1500 rows of data –which makes for a more detailed read.
   - The task was not too difficult, however it was time consuming. Opening the spreadsheets was easy enough, however, searching for data on an Excel sheet is never easy in my opinion. PDF format of this information seems more organized and easy on the eyes.
   - The only difficulty in doing these tasks was intimacy with the internet and Excel program. I spent most of time putting the results on the Excel sheet. Except this, I think the assignment was not that difficult. At first, I was a little worried about doing these tasks. However, as I followed the steps my professor had given to me, I found that they were easy to follow and that the XBRL was very convenient tool for analyzing financial statements of companies.
   - One thing that was slightly difficult was formatting the extract page with both companies on it so you could clearly tell which one was which and did not confuse the columns. The process of going to the web sites and downloading the data was easily. It was very interesting how it takes the data and can convert it so easily. I wish I know about this function

sooner as it would have been helpful during my undergrad when I was always looking at financial and try to copy numbers over. It was easy to find and analyze numbers putting them in graphs as well.

- Because this assignment was so very new to me, I found the initial setup of Pepsi Co to be the most difficult. Once I followed the steps to extract Pepsi Co financial statements, preparing Coca-Cola's was much easier for me. The side by side comparison was probably the most difficult only because Coca-Cola Co. had financial statement accounts that Pepsi Co. did not have and vice versa. Once you familiarized yourself with each company's set up, the analysis was straightforward.
- The most difficult part of the task was determining the different names that each company used for the line items. For example, each company had a different name for their "sales revenue" The easiest task was calculating the ratios once the numbers were determined. The ability to use Excel, allowed quick and easy calculations to determine the financial ratios.
- Not having excellent Excel skills, it was good to work through some calculations and manipulate the data onto pertinent graphs and tables. It was not hard, it was good practice. I thought it was pretty clear what was expected.
- There are two difficult parts in these tasks. The first one is to understand ratios and analyzed them. In other words, financial analysis is the most difficult part for me. The second difficult part is to make the graphs because I had to spend a lot of time to adjust them and make them clear and pretty. In my opinion, calculation is easy especially only three ratios in these tasks. Besides, getting the financial statement from XBRL is not so difficult because your instructions are very clear and understandable.
- Finding the XBRL data and downloading was pretty straight fwd. I did this exercise at work and had to override my computer's Macro clearance for any macro. The macro should be "signed."
- Easy: Following step by step instructions. Difficult: The presentation of the statements was hard to follow. The different indents of elements and the sub-elements of the financial statements were confusing to get the information of interest.
- I did not think there was anything complex to the assignment if you followed the directions. In the second part of the exercise comparing the two companies side by side there were a few line items that did not match up. So I had to go back to the financial statements themselves to get clarification on some of the line items to make sure I was comparing apples to apples.

3. **How did this task help you to learn about XBRL and interactive data?**
   - This assignment was a terrific primer on what XBRL is, how it can be used, and how to set up a system to view these files. Although I am not convinced that it is easier than typical methods, I understand the use it serves and that some people may find it much easier. I believe with some customization on the part of the user, the system could be made into something much more efficient than either, although it would require some more advanced Excel skills than many may have.
   - This task was a great way to roll-up your sleeves and pull-in interactive data from the internet. Also, learning about XBRL and how that applies to the spreadsheet was an eye opener and now, I can save many work hours – and show off - with these new skills.
   - Though I did not submit Task 1, visiting the XBRL International website and reading the "What is XBRL" helped me to learn about XBRL and interactive data. While doing the Part I of Task 2, I felt that XBRL was a very convenient tool for analyzing financial statements of a company. Because I could find the figures I wanted to get by simply scrolling and clicking a mouse. Also, when doing the Part II of Task 2, I felt the strength of using XBRL for I could compare the statements of two companies just in one Excel sheet.

- I seem to understand new concepts/tasks much better when I go through the steps – actually doing them. This exercise/project made the learning process surrounding the XBRL/interactive data much better then had I read about it in an article or book.
- This assignment helped me learn a lot about XBRL and interactive data. It would have been great to have known about this tool prior to the Company Financial Analysis project. This tool is much more useful than searching online for company financial data. There are many benefits to analysis of financial data and it makes sense for this data to be converted to Excel where ratios and graphs can be created from the data.
- This was a big help in learning about XBRL and interactive data as I had never used it before. It was helpful in downloading the converter file, showing me how to access the 10-K documents on Edgar and how to get them into the correct format. One thing that may have been helpful is a task on manipulating the data into some sort of report. Otherwise it was a big help and might have never used it before without doing this.
- I did not know that XBRL and interactive data existed and I found this assignment to be very useful for me. I am an accountant by day so having knowledge of XBRL and interactive data will become something I would like to share with my colleagues who also may not be aware of the possibilities XBRL and interactive data can provide.
- This task helped me to learn about XBRL because till I started the task I did not know that such interactive data existed and it made it more helpful to extract the data to a spreadsheet and use it for calculations and evaluations.
- On the simple fact that I did not know what XBRL was before hand, I think this assignment helps increase awareness of the options the SEC website offers to view material. And I am more knowledge about XBRL, in the event that I would have to use this again I think I would feel fairly comfortable.
- This task allowed me to understand how the interactive data works and how I can use the data to more easily calculate ratios. Without having practiced using XBRL and interactive data through this assignment, I would never have used the interactive data option. I now have knowledge of how to use interactive data and will do so in the future if available.
- Usually I will simply highlight the financial statement and copy into a spreadsheet. This exercise forced me to use the XBRL protocol and I now see the benefit of both line item comparison, and extraction formatting.
- Actually working through the extracting of the data helped me learn -> more hands on.
- Showed me how easy it can be to evaluate financial data. It is so much easier than pulling the 10-K and manually finding and entering the number in a new Excel sheet.
- It opened up a different method for reviewing data for me. I was completely unaware that this method existed. I did find it very simple to deal with the data.

4. **What did you find useful about this task in helping you learn to find, extract and use XBRL Documents?**
   - Everything was useful. Each step in the instructions is needed for a first time user in XBRL. Specifically, the instructions to get the correct software onto a desktop, rather than using the SEC's web platform for XBRL information, which can be glitchy at times.
   - Just the overall knowledge of able to pull this data off the web in seconds flat and be able to compare companies – apples to apples – within an hour is really just amazing. To think about the access we have to information today – compared to 15 years ago – when I was an under grad – is truly remarkable and I'm glad I'm able to be still actively learning.
   - I felt the fact I actually went through the process not once but twice made the process much easier to understand and gave me a stronger grasp of how to obtain the data with ease.
   - I found it very useful that the extraction of XBRL data can be analyzed in many different ways; side by side comparisons, single company review, pie charts for top industry leaders to show market shares. This assignment introduced me to the XBRL technology and giving the XBRL website was helpful in allowing me read on the benefits and instructions on this technology.

- I thought the whole process was useful. The step by step guidance was done well and I did not have a problem following along. I thought being about to analyze the data was useful and having it in a format that I could manipulate and do formulas with and graphs was very helpful. I also did not know I was able to extract data from Edgar online and am used to printing off reports or using yahoo finance to get numbers. I will be using this function in the future to find and analyze financial information.
- I found this assignment very useful because it covered many areas I was not familiar with. For one, I gained familiarity with the SEC website and locating a company's financial data, beyond just a 10-K. Second, I found it extremely useful to be able to extract just the financial statement data from the very lengthy 10-K document. I know that before I learned how to extract these documents, I would have wound up printing the entire 10-K leaving me with a lot of unnecessary information for someone trying to just queue in on and analyze financial data. I also enjoyed having the ability to link my ratios directly from the data, that way I knew I was not making a transposition error in my financial analysis.
- This task is the best practice for me to learn how to use the XBRL. After finished the task, I found that this program is very useful for me. It helps me to understand how to collect information from SEC and convert to the Excel file. Moreover, using the experience after this task, I can apply this method in future assignments, especially in finance and accounting fields.
- Getting on the website and exporting the data to a spreadsheet was the most helpful in learning about XBRL.
- The actually experience of going to the XBRL website, downloading the zip files, and then extracting the info directly from Edgar was the learning point for me.
- I learned that this data was even available in this format from the SEC and in certain jobs the ability to compare lots of different companies' financials at once could be highly beneficial.
- The instructions were very clear. . .baby steps – very helpful!

5. **Did this project help you to evaluate the two companies?**
   - This project was a great way of comparing – apples to apples – for PepsiCo and Coca-Cola Co. Although, there is so much information listed, it's very easy for me to not catch a significant number that can determine the fragility of either company.
   - Yes, it helped for evaluating the two companies. The most attractive part I found was that I could put the financial statements of two companies in just one Excel sheet. This helped me to compare the ratios of both companies, make graphs of them, and compare the financial trends of them.
   - This project did assist me with obtaining the necessary data with ease enabling me to evaluate the two companies' financial standings. I really liked the ease of obtaining the variety of data provided using XBRL.
   - This project did help me analyze two companies and it was very easy to do so with the XBRL spreadsheet converter. I plan to use this tool regularly in the future for any financial analysis projects and it will save me a lot of time rather than online searches for this type of financial data.
   - Yes, this project did help me evaluate the two companies. I was able to easily compute the ratios and make charts since the data was so easy to manipulate. The only thing that was missing was industry averages to compare the numbers too. But using the 3 ratios and looking at revenue and income gave a great picture of the financial health of Pepsi and Coca-Cola.
   - This project was very helpful in evaluating the two companies. I had never seen Coca-Cola or Pepsi's financial data prior to this assignment and although I have no direct relationship with either company, I found it very interesting to see how profitable both competitors were doing.
   - Evaluating the two companies was much easier with the use of interactive data. It allowed me to easily pull-in the financial data to quickly determine relevant ratios etc. Overall, I now have a better understanding of the current financial situation of both companies.

- Yes, this project helped to evaluate two companies. I got all the information that I needed for the evaluation and comparison. And because it uses Excel it was easier for me to do the calculations and with the help of graphs we can easily understand the company's position.
- Yes, the ability for side-by-side comparison with all line items aligned is amazing.

6. **How can we improve this task? What can we add? What should we take out?**
   - I believe the task is sufficient as a primer to XBRL use. I would be hesitant to add anything further, if only to ensure than an absolute beginner is not thrown off by a somewhat confusing batch of Excel sheets.
   - Not much to add, maybe a line that says you cannot use XBRL on MAC (computers) and that you need to disable Macros to effectively download the data. Also, would it be just as easy to compare the companies – apples to apples – vie the Extract and Trim button, than just the Extract button? Wouldn't that make for a cleaner report? Just wondering.
   - I really don't have any improvements to suggest for this particular assignment/project.
   - I think it would be helpful to include a website link to a short video on how to use XBRL and an example of financial data being extracted. Although the XBRL website is good reference to have for beginners, it may be a little overwhelming with the high content of information on it. Although the instructions are clear, this would help in reducing any doubt that students have with their attempts in using the spreadsheet converter. I don't think anything should be taken out of the current assignment format.
   - Definitely do not remove any portion of this task; everything was very useful. The only thing I would add would be to perform an analysis of each company's cash flow statement. I think students lack familiarity with this portion of financial statements the most and having the ability to see both company's cash flows side by side may help students get more acquainted to this part of the financial statements. Perhaps the students should prepare an analysis on what the company spends the most of its cash on and where it spends the least, something like this. I thoroughly enjoyed preparing this assignment and it should not be just an extra credit, it should be a requirement for all future students.
   - I liked the size of this task; thus, I do not think it should be either added or taken out. However, if there had been more visual enhancements in the instructions it would have been clearer for me to understand.
   - This task is explained very well in details step by step. I do not think that anything should be taken out of the task.
   - This is a good exercise to provide an in depth evaluation. I don't think there is anything to remove from the assignment, by doing so you will be jeopardizing the learning experience.
   - I think everything was so accurate and clear. I did not find any difficult to find the information and data.
   - As for me, I have learned a lot from this task. This task is pretty good. I felt a lot of convenience from XBRL system such as data analysis and time saving. I did some research about XBRL and knew there is a lot of benefits of them such as multi-language capability, how can I find other benefits of XBRL through project?

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