

**A Sample Title Page for the Analysis and Valuation of**

**Buffalo Flats and Eastern, Inc. (BFE)**

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## **INTRODUCTION AND BACKGROUND**

### **Preliminaries**

This document started out as an outline, but I decided to try formatting it like the valuation paper itself. Consider it a work in progress and feel free to comment. We can modify it to suit our needs. The headings below are a guide, and I have deliberately listed many sections to make it more readable. When you write your own paper, some of those sections will turn out to be very short. If so, combine them under higher-level headings.

### **First things**

First provide a one-paragraph summary of your recommendation and the basis for it. As appropriate, state any conditions associated with your recommendation. The background section should contribute to the understanding of the financial analysis, drivers, forecasting, and valuation. The company's annual report and 10-K usually contains plenty of material, and I expect you to draw on it heavily. It is also acceptable to supplement it with outside sources.

Provide enough of a description so that the reader understands the business and its environment. In essence, what, where, when, how, and why. Be careful. It is very easy to write too much, filling the paper with nonessential information. Discuss something only if it adds value to your paper. Do not copy unless you cite your source. Use your own words. *Normally, the background section should not exceed two pages.* Write it carefully. It sets the tone for your paper

### **Industry and company**

What does the company do (products, services etc.)? Does the company produce a quality product or service? Is the product or service a commodity? It is unique?

Where is the company located? Where does it sell its products or services? How long has it been operating? Check the company's history on Mergent online. What are the company's fiscal year, market capitalization, and recent quarterly performance?

Give some background on the industry so we can understand the basics. What are its characteristics? Professor Michael E. Porter's Five Forces provides a useful framework (Koller, Goedhart and Wessels 2010, 61).

### **Competitive environment**

Try to describe the competitive environment. List the major competitors. Does the company have a competitive advantage? If so, what is it? Does the company have a "moat around it"? Are the barriers to entry for the business high or low?

## Legal and regulatory

Is the industry heavily regulated? Is regulation a positive or a negative? Are there *material* legal problems that would be a monetary or managerial drain? Does the company have critical patents or licenses? When do they expire?

## Sales and growth

What drives the company's sales? Is the company's business *cyclical* (e.g., homebuilder)? Is it currently in the peak or trough? Can you tell? Is the company highly *seasonal* (e.g., seed company)? For companies that produce (or use) commodities, it is important to distinguish between unit sales and dollar sales. The company's dollar sales might be increasing owing to rising commodity prices and not units.

Is sales growth internal or due to acquisitions? Is the company consistently involved in acquisitions? Do the acquisitions make sense? Is there any indication that the company overpays for acquisitions? Try to determine the company's organic growth?

Does the company have an order backlog? Is it meaningful? Does the company rely on a single product? What proportion of sales come from other countries? Is there high foreign currency risk? What about country-specific risk?

## Customers

Who are the company's customers? What are their concerns? Are a large proportion of sales generated by a few key customers? Try to determine the company's market share. Is it increasing or decreasing? How much market power do you think customers have?

## Costs and suppliers

Who are the company's main suppliers? Are there many suppliers or only a few? How much market power do suppliers have? Does the company rely on one supplier for a critical part? Does the company depend heavily on commodity prices? Are labor costs an issue? Is research and development important? What proportion of sales consists of research and development? What is the trend? Is the company maintaining its investment in R&D?

## Management

Try to assess the quality and experience of the management. Does the management seem to understand value creation? Does the management think like an owner? Does the management discuss important items in the letter to shareholders? Does the management state its goals? What are they? Does it seem to have a way of imparting its goals to its employees?

Is management's wealth aligned with that of the shareholders? Does the management have a significant wealth stake in the company? How does the company compensate senior management? Is the compensation based on operating items?

The amount and frequency of write-offs might provide evidence of management's past ability to allocate capital. Have things changed? Note that, after a large write-off, the return on invested capital might increase substantially.

### Ownership and recent developments

To the extent that you can, describe the ownership structure (e.g., insider, institutional, major shareholders, etc.) Describe the firm's shares: exchange traded, number outstanding, estimated float, average daily volume, price history (minimum: current, 52-week high, 52 week low), book value per share, multiples (market-to-book, PE), dividend per share, earnings per share. A table is helpful for summarizing this information. The company's 10-K and Yahoo! Finance (<http://finance.yahoo.com>) usually have what you need.

Within the last fiscal year, what *significant* developments have occurred with the company (e.g., acquisitions, spin-offs, policy changes, lawsuits, etc.)?

### Opinion versus fact

Always and everywhere, be sure to distinguish between fact and opinion. If you provide an opinion, be sure it is clear that it is your opinion and not someone else's opinion.

## **HISTORICAL FINANCIAL ANALYSIS**

### **Financial statements**

Briefly discuss the *historical* financial statements (income statement, balance sheet, statement of invested capital, statement of free cash flows) *as appropriate*. *Make general statements*. Draw conclusions. State your summary statement at the beginning of your paragraph. Then support it. Indicate the significance. Do not provide a detailed line-by-line, year-by-year report of the past.

### **Financial ratios**

Discuss the *historical* financial ratios. (If appropriate, you might also discuss selected historical drivers.) You need to assess the following: short-term solvency, long-term solvency, efficiency, and profitability. (See the financial ratios in the valuation worksheet.) Provide your summary statement at the *beginning* of your paragraph. *Make general statements about any trends*. If there are no trends, state so. Summarize the history and draw conclusions. Do not discuss the ratios year by year. For more details, refer the reader to your appendix by page number.

Keep in mind that analyzing the past is only useful to the extent that it gives you insights into the future. The individual ratios should provide the supporting evidence for you to make general statements and draw conclusions about the four areas. When you are done, we should have a fair and accurate picture of the company's financial condition. For example:

The company has consistently exhibited strong short-term solvency over the past ten years. The current ratio has fluctuated between 3.3 and 3.5 with no trend. On the other hand, profitability has declined steadily, with the return on invested capital dropping from 13.5% in 2002 to 5.7% in 2012.

If the company's operating leases are material, reflect the operating leases in your analysis. Add or delete ratios as appropriate. For example, for transportation companies, the operating ratio (operating expenses/sales) is a necessity, whereas days sales in inventory is inappropriate. Other ratios might include net capital spending per dollar of sales or the average life of the firm's fixed assets. Unless you are using a ratio that is unusual, there is no need to explain how it is calculated or how to interpret it.

Acquisitions can introduce distortions. Check the statement of cash flows and the company history for acquisitions. Try to distinguish between organic and nonorganic sales growth.

## **LONG-RUN OUTLOOK AND FORECAST**

### **Economy and industry**

In this section, briefly provide your long-term expectations regarding GDP, inflation, interest rates, and depending on your company, other important economic indicators. For example, if you are analyzing a temporary employment company, you might want to discuss job creation and the unemployment rate. While you need not perform a sophisticated forecast, you do need to provide a basis for your expectations.

When discussing the industry, In this section, briefly provide your assumptions regarding the long-term (or short-term) supply, demand, structural changes (historical or expected), etc.

### **Company**

#### Investment thesis

*You investment thesis is very important.* The value drivers for your forecast are a numerical translation of the vision expressed in your thesis. In essence, for the foreseeable future, what do you see happening with this company? What drives its business? What makes this company tick? Do you see its business strengthening? Staying the same? Declining? Do you expect its market share to remain stable? Increase? It would be appropriate to discuss operating margins, margin expansion, etc. Distinguish between expectations of rising costs in an *absolute sense* versus rising costs as a *percent of sales*. Costs could rise in an absolute sense by decline

as a percent of sales. Do you expect the company to be able to pass on costs and keep cost/sales ratio constant? Or do think that increased competition might lower margins?

### Important value drivers

I suggest that you focus your forecasting efforts on not more than seven value drivers, maybe fewer. What are your expectations regarding the important value drivers. The sales growth rate is crucial. Discuss *major* drivers related to the income statement and balance sheet. Normally, you should express your drivers as a *percent of sales*. Sometimes there are good reasons for expressing drivers independent of sales. *Nevertheless, you must be sure that you are not departing from the long-run relationship between assets and sales.*

*For items that do not vary with sales in the short term (e.g., property, plant, and equipment, intangibles, long-term debt), be sure your first forecast year is consistent with the most recent 10-Q, especially if three quarters are available. (See the regression example in the valuation worksheet.) If a company's products or services are seasonal, do not extrapolate from a single quarterly income statement unless you make adjustments. For forecasts, you should first assume that the company's future performance would be consistent with your analysis and understanding of its past performance; *ceteris paribus, the status quo reigns*. Then, based on your analysis and understanding of the economy, the industry, and the company, make your case for departing from the history or status quo. Use the appropriate forecasting tools. *Be sure that the last two drivers are the same to maintain convergence between the two valuation methods.**

### Risks, caveats, and exposures

What are the bad things that can happen? You can usually get a good start from the company's discussion of risks in the management's discussion and analysis section of the 10-K or annual report. However, many times, companies list so much that the list is not very useful. Do not take such a list at face value. Provide an informed opinion and focus on a few, important items. Consider constructing a table or discussion of catalysts and risks, along with the associated impact on the company and its stock. If possible, emphasize the long-term. Finally, try to determine your company's *exposure* to various risks outside that of its historical experience. Conjecture about the impact on your company if the event(s) were to occur.

## **VALUATION**

### **Summary of important series (spreadsheet)**

Briefly summarize the important series as appropriate. Do not give a year-by-year discussion of every item. Your summary should bolster your argument and your forecasts. Good candidates for discussion include sales, return on invested capital (ROIC), economic profit, and operating free cash flow. The sales growth rate is the most important.

## Components of the weighted average cost of capital (WACC)

While you are building your worksheet, I suggest that you preliminarily set the WACC to 9%. Most of the discount rates will probably be between 7% and 11%. Once you have all the inputs, estimate the WACC. Briefly discuss it. Does the calculated WACC make sense? Did you make a subjective estimate of the WACC? Briefly explain. For calculating the WACC, use the most recent quarter's (MRQ) shares *outstanding*. This number can be found on the first page of the 10-Q. Check several sources for the company's beta. If necessary, do the regression yourself.

## Valuation approaches

Briefly discuss how you determined the value of the enterprise. Briefly discuss any adjustments (e.g., interest bearing debt, funded status of the pension fund, capitalized value of operating leases, tax-loss carry-forwards, a large minority interest, etc.) Companies rarely fund post-retirement benefits because such contributions are not tax deductible. What proportion of the company's intrinsic value comes from the next 10 years free cash flows or invested capital. Is there any reason to be concerned about this?

For tax loss carryforwards, estimate how long it will take to reduce the carryforwards to zero. As a first trial, use  $N = 5$  years and assume the recovery of an equal amount each year, an annuity. The present value of the tax loss carry forward is the present value of the annual benefit, discounted at the weighted average cost of capital. Letting  $T =$  the marginal corporate tax rate, the benefit each year is equal to:

$$\text{Tax loss carryforward benefit per year} = (\text{tax loss carryforward}/N)(T) \quad (1)$$

For calculating the intrinsic value per share, use the most recent quarter's *diluted* shares. You can obtain this number from the most recent 10-Q (or annual 10-K if it is more recent). The company provides it as a *weighted average*. (If the weighted average diluted shares outstanding is less than shares outstanding, use shares outstanding.) Calculate the price/intrinsic value ratio. Give your recommendation and rationale. If you recommend, "do not buy," indicate why not. Under what conditions would you recommend purchasing the stock? Comment as appropriate.

If appropriate, consider performing a one-variable or two-variable data table for sensitivity analysis. It is sometimes helpful to provide a perspective on your valuation using other methods (PE multiples, market-to-book ratio, discounted dividend valuation, price-to-cash flow, etc.). Keep in mind that some of the best investment decisions are to decide not to invest.

## OTHER IMPORTANT ITEMS

The above discussion concludes the outline of the paper. Below, I discuss several items that are important to the analysis of the company and the construction of the paper.

## Forecasting

Before getting down to the business of forecasting, you need to have a solid understanding of the business and the industry. While you can use a variety of sources, two stand out as being essential: the annual report (10-K) and the most recent quarterly report (10-Q). Study the annual report (10-K) from cover to cover. Use the most recent quarter's 10-Q as an update to the 10-K. Integrate your understanding of the historical financial statements with the 10-K and 10-Q. Your first year's forecast must be consistent with the most recent quarter.

## Sales

Having a good understanding of the business enables you to make reasonably unbiased *long-term* forecasts. For example, ceteris paribus, if your company's historical sales are highly correlated with population growth, your sales forecast needs to be closely related to population growth. In this case, it is hard to justify high nominal growth rates for sales, even for the short-term. A mature company, such as Coca Cola, is an example.

Over the long run, sales typically increase exponentially. Applying MS Excel's LOGEST function to historical sales will return the regression parameters of an exponential trend. See Equation 2. While you should compute the annual percentage changes in sales, it is always useful to perform a regression to minimize the effects of outlier years.

$$\text{Sales} = b(m_1)^{\text{year}} \quad (2)$$

In Equation 2, the years are numbered as 1, 2, 3, etc., instead of 2000, 2001, etc. The constant  $b$  is interpreted as sales for the first year, and the slope ( $m_1$ ) is equal to  $1 +$  the estimated growth rate ( $m_1 = 1 + g$ ).

It might make sense to estimate sales as a function of some economic indicator such as GDP, and use the estimators of the regression to forecast one or more years of sales. Consider Equation 3, which is implemented using MS Excel's LINEST function.

$$\text{Sales} = m_1(\text{GDP}) + b \quad (3)$$

You might also consider forecasting the percent change in sales as a function of the percent change in some economic indicator such as GDP. See Equation 4, which is implemented using MS Excel's LINEST function.

$$\Delta \text{ sales/sales} = m_1(\Delta \text{ GDP/GDP}) + b \quad (4)$$

## Expenses

Over a many periods, many expenses, assets, and liabilities are directly related to sales. A careful analysis of the historical relationship to sales is crucial. When an expense-to-sales ratio

is stable, a simple average of the ratios might provide an acceptable estimate for forecasting. Equation 5 provides an example, for cost of goods sold (COGS).

$$\text{Avg. COGS/sales} = 1/n[\text{COGS}_1/\text{sales}_1 + \dots + \text{COGS}_n/\text{sales}_n] \quad (5)$$

If there are one or more outlier years for the expense or for sales, the average of the ratios might produce unreliable results. In this case, the ratio of the sums will provide a better estimate as shown in Equation 6.

$$\text{Avg. COGS/sales} = (\text{COGS}_1 + \dots + \text{COGS}_n)/(\text{sales}_1 + \dots + \text{sales}_n) \quad (6)$$

Many expenses, especially selling, general, and administrative expense (SGA), have a significant fixed component. Consider performing a regression to obtain the variable and fixed components. Equation 7 assumes that the COGS has two components: a fixed component (b), and a variable component, which increases with sales. It is implemented using MS Excel's LINEST function.

$$\text{COGS} = m_1(\text{sales}) + b \quad (7)$$

In Equation 7, we can force the intercept to equal zero. Effectively, we are saying that, at least over the long run, all costs are variable. See the function syntax for the LINEST function.

Equation 8 presents an alternative to Equation 7. It assumes that the COGS/sales *ratio* has a base level (b) that can trend up or down depending on time. (Time refers to years 1, 2, 3, etc.) A negative value of  $m_1$  would suggest that the company is getting more efficient over time. The intercept (b) is the base ratio.

$$\text{COGS/sales} = m_1(\text{time}) + b \quad (8)$$

We could also examine the relationship between the percentage change in the expense and the percent change in sales. For example,

$$\Delta \text{COGS/COGS} = m_1(\Delta \text{sales/sales}) + b \quad (9)$$

For Equation 9, we might expect the slope ( $m_1$ ) to be equal 1.0. This suggests that if sales increase 5%, we expect COGS to increase 5%. (You could perform a statistical test to check this. We might also expect the intercept (b) to be equal to zero. Hence, if the change in sales is equal to zero, the change in the COGS is equal to zero as well.

A shortcoming of using Equation 7 is that it assumes that the fixed component never changes. As a result, the more distant the forecast, the lower the proportion of fixed costs to total costs. One way around this is to assume that the fixed cost component increases at some rate as indicated in Equation 9.

If  $m_1$  is greater than 1.0, it indicates that the COGS are increasing faster than sales, perhaps due to some diseconomy of scale. A positive intercept suggests that there is something causing the COGS to increase, even when sales are not increasing. This might be related to the fixed component. Such things as increases in wage rates, additions to plant and equipment, increases flat-rate user fees, a regulatory requirement, etc. might be the cause. Equation 9 does not provide us with an estimate of the fixed cost component. However, the intercept (b) might provide insight into the rate of increase of the fixed cost component.

Sometimes two items do not appear to be related to sales. However, a combination of the two items might produce a much better forecast. An example would be to combine COGS and SGA to create total operating costs.

### Operating assets and operating liabilities

Operating assets and liabilities are of two types: those that vary with sales in the short-term and those that vary only in the long-term. Accounts receivable, inventories, and accounts payable are examples of balance sheet items that vary in the near term. For a well-managed firm, if sales decline, these items should also decline.

In the *short-run*, non-current assets (e.g., property, plant, and equipment, PPE), do not fluctuate directly with sales. In the short run, even if sales decline abruptly, PPE will typically stay constant. It might even increase. Hence, you might consider using a max function in your worksheet that will prevent PPE from declining. See Equation 10.

$$PPE_t = \text{Max}[(\text{Sales}_t)(\text{PPE/sales ratio}), PPE_{t-1}] \quad (10)$$

Over the long run, PPE do vary with sales. This makes PPE a good candidate for Equations 7 and 9.

### The upshot

Regardless of the level of sophistication of your forecasting method, any method can lead to a poor or even nonsensical forecast, especially for the distant future. Realize that we are typically working with very small sample sizes, much smaller than is statically desirable. While our estimates might still be unbiased, they have large variances, and are very sensitive to additions or deletions of observations. Large restructurings or large acquisitions can wreak havoc on our historical analysis. Furthermore, depending on the model, the serial correlation of time-series data may make hypothesis testing unreliable.

What should we do? Give up? Hardly! Such uncertainty is part of life. Use your analysis of the historical data to gain additional insight into the operations of the business. Always ask yourself if your forecast makes sense. For example, suppose you forecast sales to grow at 15% per year in perpetuity. Does it make sense for your company's sales to increase "forever" at a rate faster than nominal GDP? If you use a regression to estimate the relationship of operating

expenses, assets, or liabilities to sales, always check your forecast by calculating the simple percent of sales. Compare the percent of sales in the forecast period to that of the historical level. For example, if the historic average of COGS/sales is 60%, does it make sense for the ratio to be equal to 30% 10 years hence? No!

Finally, graphs can shed light on the reasonableness of your forecast. A sensitivity analysis can give you a sense the estimation risk. You can also reverse engineer your worksheet using goal seek. For example, what rate of sales growth will provide an intrinsic value that is equal to the current market price? *Whatever you do, be sure your forecasts pass the common sense test.*

### **Appearance and formatting for the paper**

Be sure your paper has a neat, professional appearance, and be sure you are proud of your work. (I have a few sample papers for you to examine.) Use descriptive, appropriate, and effective phrases. Use correct grammar, usage, punctuation, and spelling.

Use a font size of 12-point Calibri, a 12-point Times-Roman, or a 11-point Arial. Line spacing must be single-spaced. Set the margins to one inch on all sides. *The body of the paper must not exceed eight (8) pages.* A title page and table of contents are required. Print the document single sided.

If you wish, instead of printing a paper copy, you may submit PDF copies of both the paper and the MS Excel worksheet. To print several worksheets as one document, hold down the control key and select the worksheet tabs. The worksheets will print as one document and pages will be numbered sequentially. If you go the PDF route, be sure the PDF versions of the paper and worksheet look as you want them to look. I will still need the MS Word and MS Excel files.

I suggest you use headings and the MS Word's built-in table of contents feature. Use the "keep with next" formatting for headings. This ensures that headings do not end up by themselves at the bottom of a page. Use different styles for different heading levels. This document contains three heading levels, which you can readily see in the table of contents. Three levels are sufficient. Use section breaks to allow you to start page numbers on the first page of text. Upon request, I will give you the MS Word copy of this paper as a template.

Define your acronyms (e.g., turnover (TO), return on invested capital (ROIC)). Use footnotes *and* bibliography as appropriate. (Use the Chicago style if you wish.) Use correct format for both. *I strongly suggest that you use MS Word's citation facility.* In addition, see the Useful Websites page on our website. I also have a writing book to lend out.

Footnote something if it is very specific or a direct quote. The reader should be able to use the information in your footnote to locate the information. Simply writing the source as "SEC" or "Yahoo! Finance" is inadequate. For printed publications, you need to include the page number(s) for the quote. For Internet sources, you need the URL and date. MS Word's citation facility provides a template so you don't miss anything. See the examples from our website.

The bibliography contains all the sources you used for the paper. Reference your source of data and your textbook in the bibliography. I do not care what or how many sources you use, but you must cite your sources. *Most importantly, your analysis and thinking must be your own.*

### Style and voice

When possible, use active voice in writing. Write, "I expect," rather than "it is expected." In the latter case, we really do not know who is doing the expecting. You don't know the future. Hence, do not write that something "will" happen. Write, "I expect ...." Alternatively, you could write "it should...," as long as it is clear that you are doing the forecasting.

### Tables

Use tables in the paper to save space and verbiage. Put titles on tables. Explain and provide an introduction. Size appropriately. Center the table (not the labels) and the title. Eliminate lines, except at top. *Discuss or reference the table before it appears in the text.*

Fit the table and center. Eliminate lines, except as needed. Leave some space after the table before you get back to your text. For example, see Exhibit 1 for a decomposition of revenues by commodity. While paper, clay, and forest products are the smallest contributors to total revenues, they are not insignificant.

**Exhibit 1: Railway Operating Revenues (\$ in millions)**

<b>Commodity</b>	<b>Revenues</b>	<b>Percent of Revenues</b>
Coal	\$1,728	23.6%
Automotive	954	13.0%
Chemicals	864	11.8%
Metals/Construction	818	11.2%
Agriculture/consumer products/government	727	9.9%
Paper/clay/forest	684	9.5%
Intermodal	1,537	21.0%
<b>Total</b>	<b>\$7,312</b>	<b>100.0%</b>

Source: (Buffalo Flats and Eastern Railroad, Inc. 2012, 16)

Tables can be very useful in conveying trends. Consider Exhibit 2 below.

**Exhibit 2: Profitability and Interest Coverage Ratios**

<b>Ratio</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
ROIC	0.03	0.06	0.08	0.11	0.12	0.13	0.12
Interest coverage	1.0	1.3	1.9	2.3	3.5	4.4	4.3

Exhibit 3 shows another way to convey a trend.

**Exhibit 3: Profitability and  
Interest Coverage Ratios**

<b>Ratio</b>	<b>2002-2012 average</b>	<b>2012</b>
ROIC	0.093	0.12
Interest coverage	2.7	4.3

**Appendix**

The appendix consists of your MS Excel worksheets, graphs, and any other supporting documents. There is no limit to the number of attachments. *Be sure you reference the attachments in your paper and number the pages.* This allows you to refer to a specific table by page number. Separate the appendix with a sheet labeled "Appendix." If you use more than one appendix, label them Appendix A, Appendix B, etc.

Formatting and layout for the spreadsheet

For the MS Excel worksheet, use a 10 point Calibri, a 10-point Times-Roman or a 9-point Arial, or equivalent font. *Do not adjust the size of the spreadsheet to less than 100% in the page setup. Using page break preview will also cause this to happen.* (If you are not sure, please ask me.) In the page setup, set the printing to be "over, then down."

Margins need to be 0.75 inch on all sides. The header should include your last name, company, and date or name of section. The footer should have a note about the scale of the numbers (e.g., Thousands of dollars unless otherwise noted) and page numbers (page X of Y). Let MS Excel insert the pages for you automatically. If you don't know, ask.

In general, be sure the spreadsheet is neat in appearance and looks professional. Numbers must line up and have a consistent number of decimal points. Align or center headings as appropriate. See table below for correct and incorrect form.

<u>Acceptable</u>	<u>Unacceptable</u>	<u>Unacceptable</u>	<u>Acceptable</u>	<u>Unacceptable</u>
\$1,234.5	\$1,234.5	\$1234.534	<b>ROIC</b>	<b>ROIC</b>
35.6	35.6	35.6	0.253	0.253

Display figures in thousands or millions as appropriate. Use comma formatting where appropriate (6,000 not 6000). The largest numbers (e.g., sales) should be displayed with 4 or 5 significant digits.

<u>Acceptable</u>	<u>Acceptable</u>	<u>Unacceptable</u>
23.41	2,341	23410537

Use the "borders" line feature instead of underlining specific words.

<b>Acceptable</b>	<b>Unacceptable</b>
<u>Sales</u>	<u>Sales</u>
\$1,000.5	\$1,000.5

Add *page breaks* to separate statements at logical break points (e.g., assets on one page, equities on another). If tables are too wide or too long for one page, use the appropriate page setup selections to repeat the appropriate rows or columns on every page. For example, the years should appear on every page.

## Graphs

Graphs have tremendous value. You need to graph sales (or sales growth rates), margins (operating and gross profit), and ROIC. (You could graph sales and sales growth rates on the same graph with two different axes.) Graph other important items *as appropriate* (e.g., PPE/sales, invested capital/sales NOPLAT, FCF, economic profit). You could add invested capital or economic profit or free cash flow to your sales graph. If two series differ in scale, use two y-axes. Consider a graph of GDP and sales, or oil prices and sales, etc. It is sometimes better to display time series graphs as log graphs. *Do not smooth graphs*. If you use numbers for the fiscal year (e.g., 2012), you can use an XY graph or a line graph. If you use words or a combination of words and numbers (e.g., Apr12), you need to use a line graph. For regressions, use XY graphs.

Add trend lines (linear, exponential or log) *as appropriate*. For example, a linear trend is appropriate for rates, but not for dollar sales. You might want to restrict the trend line to the *history*, and then extrapolate it to cover your forecast period. If you take this approach, you will have to construct two plots on the same graph, one for the history and one for the forecast. Do this by constructing the first one (A), and copying and pasting it on top of itself. Then, edit the range for the second plot (B) to correspond to the forecast. Add the trend line to the historical plot (A), and forecast enough periods to correspond with your forecast. Compare your trend line to the forecasted plot. This technique is very useful and is sure to reveal excessive optimism or euphoria.

Refer to and briefly discuss each graph. Otherwise, do not include it. Indicate where the reader can find it (e.g., Appendix, p. 9). Be sure graphs have headers and footers like the rest of your paper. If you select both the spreadsheet and the graph, and go into the page setup, the footers and headers will be copied. Before you print, select all tabs. This will cause the pages to be numbered consecutively.

## **Other**

Please name your files using the following system (or something similar) for Finance 123.

<b>File type</b>	<b>Example</b>
MS Excel files	123 Rozycki BFE 2014_01_08.xlsx
MS Word files	123 Rozycki BFE 2014_01_08.docx

*Save multiple versions as you work, at least three.* This is especially the case for your worksheets. I suggest you use your Blackboard's digital drop box as a backup away from your computer. Emailing it to yourself would serve the same purpose.

Place your *unbound* work in a *clean* manila folder. I look forward to reading your analysis.

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