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Preparing Financial Professionals for Success
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Introduction

BEFORE WE GET STARTED...

Welcome to Training the Street's Relative Valuation Course Pack. Training The Street (TTS) is the world's foremost provider of instructor-led courses in financial modeling and valuation training. We work with Wall Street investment banks, Fortune 500 companies, business schools, and colleges.

This self-study book is a response to a need many of you have expressed—a need for a course pack you could use on your own if you cannot attend one of our live classes. It will cover one of our most popular valuation topics: relative valuation. What you have in your hands is the very best out-of-the-classroom experience possible—a distillation of all the knowledge we have gained from training thousands of professionals and students in live seminars. You will not need any other resources to become proficient at relative valuation. It is a complete, self-contained course. Welcome aboard, and let us get started.

If you have already purchased our Corporate Valuation self study book, you will find that this course pack delves in greater detail into relative valuation topics such as public comparables analysis and acquisition comparables analysis. If you are already familiar with the contents of our Corporate Valuation content, you may find that some of the basic terms and concepts repeated here are more for a refresher, but we wanted to provide a comprehensive treatment of relative valuation that does not leave beginners behind.

Who Is This Course For?

First off, you do not have to work on Wall Street—or be planning to—in order to benefit from this course pack. Relative valuation has a vast range of applications, and our course is designed for professionals and students from many backgrounds and with very different goals. We have focused on transferable skills and techniques that can be applied in a diverse range of industries and businesses. For sure, these include traditional areas such as investment banking, investment research, and sales and trading, but they also include:

- **Consulting**

Relative valuation can be used to compare the market's valuation of similar public companies. Consultants also use relative valuation to compare shareholder creation metrics (such as return on equity) amongst peer companies.

- **Industry Finance**

Your company may be interested in acquiring another. How do you determine how much to pay for the target company? What is that company worth?

- **Accounting**

Understanding relative valuation is critical in the preparation of reporting documents.

- **Corporate Law**

Attorneys involved in any transactions should know what the terms of the deal are, and how they were derived by clients and their investment bankers.

This course pack is designed for:

- Intermediate Excel modelers;
- Experienced Excel modelers.

This course pack assumes that you already have an introductory-level understanding of Excel shortcuts, techniques and financial modeling experience. If you are new to financial modeling, we strongly recommend that you obtain our Excel Best Practices and Financial Modeling course packs to help you get up to speed and become a faster, more-efficient modeler. Our course packs are designed to be an intuitive, step-by-step, easy-to-read introduction to the subjects they cover. They are available on our website.

How is This Course Organized?

With years of professional teaching experience behind us, we have developed what we believe is the optimal way to teach you relative valuation. Our Relative Valuation course pack includes the following:

1. Relative Valuation Self Study Book

That is the book you have in your hands. It teaches you how to perform relative valuation through practical pen-and-paper exercises. It also walks you through constructing both public comparables and acquisition comparables models.

2. Relative Valuation Online Companion

The Excel exercises and supplemental files in our Online Companion reinforce the concepts covered in the books. Our Online Companion is continually updated with the latest software, functionality, and support.

Special Features

As you work your way through this book, keep a lookout for the following icons:



Excel Templates / Related Downloads

This icon indicates that you can find downloadable files in the Online Companion. Please log in on our website to view the Online Companion.



Key Formulas

To accelerate your learning, we have identified key formulas we regard as especially important to relative valuation. You will recognize them by the “key” icon next to them.



Hotwords

You will come across **◀hotwords▶** throughout the book. These words, bolded and bracketed in solid arrowheads, are terms widely used in corporate finance and M&A work. You can look them up in the Hotword Glossary at the end of the book.

There are a few other helpful features of this book we would like to bring to your attention. As you go along, you will see one or more of these boxes:

ASK THE FINANCE GURU

In these boxes, various TTS experts respond and share their thoughts on particular questions. Because we train thousands of finance professionals every year, our experience has allowed us to identify the finance and valuation questions that puzzle students and practitioners the most. We have drawn on this reservoir of experience to frame and answer some of the most commonly posed questions.

TIPS OF THE TRADE

These boxes offer you practical suggestions, calculation assistance, and how-to tips, or flag commonly encountered pitfalls and errors that you should watch out for.

A WORD ON TERMINOLOGY

These boxes offer you quick definitions of difficult or arcane technical terms.

A final piece of advice before we jump into the thick of things: Try to view this book not as a “textbook” but as a practical guide that offers you a ready-to-use framework for the kinds of relative valuation finance professionals perform when they value businesses and transactions. Above all, we have developed it in a way that we hope will demystify the whole topic by laying out—in a truly clear, down-to-earth way—the types of analytics that professionals use every day when they go to work.

Core Skills: What Do I Need to Know Before I Get Started?

There may be some questions on your mind as we begin. One of the more important ones may be: “If I have no experience in valuation, can I still use this book?” The answer is, it depends on what you are trying to achieve in using this course pack. Here are some situations that you may be in:

- **Pre-work**

If you have little financial or accounting background but are tasked with using this book as pre-work for a more rigorous live training session in the future, we would suggest familiarizing yourself with some accounting terms and concepts ahead of time. Since there are some advanced topics in this book, you should not expect 100% retention—but neither should you need it. Your goal is to have a level of general comfort and familiarity with relative valuation before training begins.

- **Substitute for training**

Some of our readership may be using this book as a substitute for live training. If that is your situation, we would definitely suggest complimenting this course pack with other materials related to valuation. This will help you achieve the higher level of retention that you are likely to need.

- **General knowledge and reference**

You may be currently working and looking to apply relative valuation to a particular project or situation. Or you may be interviewing for a position that will involve valuation work. We would suggest approaching this book more like a reference guide and picking and choosing those topics that are most relevant to your context.

Regardless of your particular purpose, though, there are in any case some baseline skills and foundational concepts you will need to have a good grasp of. Here are a few:

1. Retrieving public filings for companies

U.S. and non-U.S. public companies will either file documents with a government entity—U.S.-based companies file with the SEC (the Securities and Exchange Commission)—or offer them to the public directly. Portions of this book will discuss specific filings of interest. To strengthen your research skills, you could practice “pulling” these documents (i.e. retrieving them from databases, websites and other sources). But that is not required for completing the exercises in the book; we have tried to make everything self-contained wherever possible. There are many

sources you can use to quickly obtain SEC filings. One good example is Edgar, a popular, free and easy-to-use resource to download public filings (visit www.sec.gov). Most companies also post their press releases and public filings on their websites, typically under investor relations. Your workplace may have additional resources that will facilitate the process of pulling public documents.

2. Basic Excel skills

You should be familiar with basic Excel skills such as how to construct a formula, how to input numbers in Excel, and what Excel does in general. In the Excel model portion of this course pack, we cover how to input numbers in a comparables analysis template. There are plenty of general Excel resources online. Forgive possible bias, but we think one of the best out there is our Excel Best Practices course pack. Check it out for an Excel skills boost!

3. Financial Statement Analysis

Essentially, you need to be able to read and understand a disclosure of financial information and use various ratios and metrics to analyze that information. We will cover important metrics such as margins and growth rates, and leverage ratios such as Debt-to-EBITDA. We will also look at other metrics specific to relative valuation. If you are new to accounting or financial statement analysis, we strongly recommend that you get your hands on our Fundamentals of Financial Accounting & Analysis course pack. It will help you get up to speed in a quick and painless way.

4. Other Valuation Topics

Although this course pack focuses on relative valuation, the latter section of this book looks at valuation from a holistic point of view. It shows you how relative valuation can be combined with other valuation techniques such as discounted cash flow analysis. If you are just getting a general sense of relative valuation, it is not really essential to have full, working knowledge of these other valuation techniques. But if you need to master valuation in toto, we would recommend picking up our Corporate Valuation course pack as well.

So, without further ado, let us turn to Chapter 1. Chapter 1 sets the table in terms of introducing relative valuation and some of the universal terms and concepts that will help lay a foundation for later chapters. Chapters 2 and 3 will cover public comparables and acquisition comparables analysis. We will then dive into various complexities in Chapters 4 and 5, followed by a wrap-up of relative valuation in Chapter 6. Chapter 7 covers how to spread comparables information into an Excel template.

CHAPTER 1: Introduction to Relative Valuation

Section I: Appraisal (Standalone) Valuation Versus M&A Valuation

Section II: A Framework of Valuation

Section III: What Relative Valuation Is Used For

Section IV: Valuation and Performance Measures

Section V: How Multiples are Used to Assess and Compare Companies

GETTING PREPARED

Before studying this chapter, you should:

1. Review the prior chapter's section, "Core Skills: What Do I Need to Know Before I Get Started?";
2. Have a calculator ready for later chapters.

INTRODUCTION

AT&T to Buy Rival in \$39 Billion Deal

On March 21, 2011, AT&T said it was buying T-Mobile USA from Deutsche Telekom AG for \$39 billion in cash and stock, a move that would stitch together the second and fourth largest U.S. mobile carriers. The carriers would be able to make an estimated \$40 billion in synergies. AT&T plans to retire the T-Mobile name in the U.S., giving AT&T nearly 130 million customers. Under the terms of the deal, AT&T would pay \$25 billion in cash and the rest in stock. AT&T has an 18 month commitment for a one-year bank loan to help finance the deal, underwritten by J.P. Morgan for \$20 billion. AT&T has also committed to pay Deutsche Telekom a \$3 billion fee (along with other concessions), if the deal does not close.

** Note: as of this writing the deal had fallen through due to anti trust reasons. T-Mobile subsequently announced a merger with MetroPCS in 2012.*

Is \$39 billion for T-Mobile USA a hefty price to pay, or a relative steal? How do you go about answering that? As it turns out, by the end of 2011, the deal had fallen through as AT&T faced increasing resistance from federal regulators. But the carrier fought hard to close the transaction, suggesting that it felt good about Deutsche Telekom's decision to sell T-Mobile to them at the offer price. (AT&T had also agreed it would pay a breakup fee to Deutsche Telekom if it failed to buy T-Mobile—that was in itself enough of an incentive for AT&T to keep pushing for the deal.) But what valuation methodologies did AT&T's advisors use to arrive at the \$39 billion price tag in the first place? Was it overvalued or undervalued? Were there, for

CHAPTER 7: Modeling Relative Valuation in Excel

INTRODUCTION

In Chapters 2 and 3 we covered public comparables and acquisition comparables in great depth. In Chapter 4 we discussed some of the complications that impact both acquisitions and public comparables related to the income statement, most importantly how to deal with non-recurring charges. In Chapter 5, we discussed complications with determining a company's equity and enterprise value including techniques for dealing with dilutive shares, equity in affiliates, noncontrolling interest, and other financial items. In addition, throughout the book we discussed sources of information including a company's 10-K, 10-Q, and various merger documents. This chapter allows us to practice much of these topics all in one place and in a practical format that nearly all finance professionals use today—Excel. In fact, what we do here in Excel is very similar to how much of Wall Street analyzes companies and M&A deals.

Section I: Valuing a Public Company—TTS Company

Section II: Completing a Precedent Transaction

Section III: Summarizing Public and Acquisition Comparables

In **Section I** of Chapter 7, we will perform a valuation of TTS Company, which is a hypothetical company created to represent the “typical” public company that you might have to value later. This exercise will give you practice locating the relevant information in a company 10-K and 10-Q, entering financial information into an Excel spreadsheet (which professionals call spreading), making necessary adjustments to normalize financial information, and most importantly, calculating the operating performance, credit statistics, and relative value of a publicly traded company. In **Section II** of this chapter, we will prepare an acquisition comparable for a real-world deal that we have discussed: Mars' acquisition of Wrigley. Not only will it give us an opportunity to look at a deal analysis from start to finish in an Excel template, it will give us some practice drawing from publicly available information for deal comparables—a process that can be quite different compared to the public comparables process. In **Section III** of this chapter, we will give you some tips on summarizing your analysis, including steps to take if there are foreign companies found in your comparables analyses.

GETTING PREPARED

Before attempting the exercises in this chapter, you should:

1. Have read the first six chapters of this book and gained a solid understanding of relative company valuation;
2. Obtain a computer with Microsoft Excel, Word, and Adobe Acrobat Reader applications installed;
3. Log in to our website and check out the Relative Valuation Online Companion for downloadable files and templates.

To attempt the two primary exercises in Chapter 7 (i.e. one public comparable, one acquisition comparable), we recommend that you print out the financial filings within the electronic files before starting. While the financial filings can be viewed electronically on your screen, printed copies of the financial filings should allow you to complete the exercises

more efficiently and with more clarity. As part of these exercises, simultaneously you will be reading the filings and entering the information into Excel. While some practitioners work exclusively in the electronic format, we find it useful to be able to mark up and annotate the printed documents. Not only will this method likely help you learn more effectively, but it is always nice to have a written record of your work should you get questions in the real world later in the process.

Before we proceed directly to the exercises, it is worth making a few observations about the Excel templates we will be using. There are a variety of valuation templates used by professionals; in fact, no two are seldom alike. Yet at their core, they all do the same thing: gather key financial information from the income statement, balance sheet, and footnotes for each company.

However, it is worth noting that one of the biggest differentiating features of these templates relates to how the income statement analysis is performed to generate the key financial statistics (e.g. revenue, EBITDA, EBIT, net income), we need to value the company. There are two main approaches: bottom-up and top-down analysis. For example, in the top-down approach, we start with revenue and subtract operating costs to arrive at EBIT. In contrast, the bottom-up approach might start with operating income and make any relevant adjustments to arrive at adjusted or normalized EBIT. Or, start with net income and adjust for after-tax non-recurring items.

Choosing between bottom-up and top-down income statement analysis is primarily a decision dictated by the desired level of detail and intricacy you want to show others. Many people find adjusting only the specific financial items they will need (bottom-up analysis) is quicker and easier, while starting from the top and adjusting the entire income statement may be more thorough and transparent. Both approaches will get you to the same result, as long as the information and assumptions used are consistent (particularly with respect to non-recurring charges).

For the purposes of our template used for the public comparables and acquisition comparables exercises in this chapter, we have chosen a top-down approach for the income statement. We find it to be more intuitive for new learners, given the transparency.

We could have easily chosen the bottom up approach and adjusted individual statistics.

Additionally, because food sector M&A analysis is generally based on transaction value / EBITDA multiples, we are not adjusting historical net income nor calculating offer value / net income on a latest twelve months or historical basis. In its place, we have calculated forward P/E multiples which are generally easier to calculate given that forecasted periods are typically normalized. We did the same approach for public comparables. We used forward earnings to calculate our multiples related to equity value, given that the forward numbers are easier to calculate, void of non-recurring charges, and forward-looking (which is generally the focus of equity investors).

SECTION I: VALUING A PUBLIC COMPANY—TTS COMPANY

In this section, we will complete a step-by-step process of valuing **TTS Company**, a hypothetical company. Think of this as a guided tour in building a company valuation in Excel with lots of guidance and resources. The following are the high-level steps, with many sub-parts and details discussed in the subsequent pages:

- Step 1.** Enter the Basic Company Information and Calculate Dividend Yield
- Step 2.** Enter the Effects of Dilutive Securities Including Options
- Step 3.** Sum All In-the-Money Options and Option Proceeds
- Step 4.** Calculate Market Value of Equity
- Step 5.** Calculate Enterprise Value
- Step 6.** Enter the Income Statement Information—Reported Figures
- Step 7.** Adjust the Income Statement for Non-recurring Charges and Calculate LTM
- Step 8.** Summarize the Key Financial Statistics
- Step 9.** Calculate the Valuation Statistics
- Step 10.** Calculate Growth Rates, Profitability, and Credit Statistics

To get started on the steps, we recommend you print the **TTS Company Public Information Book** from the Online Companion. The file includes the following documents to help you with your analysis:



- 1. **TTS Company 10-Q—April 2, 2009**
- 2. **TTS Company 10-K—December 31, 2008**

If you do not have access to a printer, you can read the financial filings on the screen as well (however, printing them will allow you to stay on one Excel screen throughout the process, which may be easier).

Note that we have provided an Excel template called **TTS Public Comparables Self Study Template**. Please ignore the other worksheets in the workbook as we will be focusing on TTS Company.

For now, read the guide of each of the upcoming steps carefully. The steps are laid out in such a way that allows you to identify everything you need to complete the valuation analysis. In the first column, we have listed a reference number/letter. This **Index** column corresponds to the general area in the diagram to give you a general location of interest in Excel to get your bearings.

The second column list **General Steps** pertains to each sub-step in the process, including: 1) general formulas and cell references in the Excel template; 2) generic calculations, and; 3) general tips and techniques. **The cell references are particularly important because you can press F5 (or Ctrl + G) while in Excel to go directly to those references we list.**

The third column provides **calculations and details for TTS Company**, providing specific guidance to the answers you should arrive at in Excel. These will be key to understanding some of the intermediate calculations and sources that help confirm the right answer.

Finally, the fourth **Reference** column (or “Ref”) gives you detailed sources about where we gathered the relevant financial information. This is usually from the company’s 10-K, 10-Q, or other source, such as a database provider like Capital IQ, FactSet, or Bloomberg. When we get into acquisition comparables in **Section II**, there are additional sources of information beyond a 10-K and 10-Q so this will help you identify a myriad of documents easier.

For a beginner to complete a public comparable for the first time, it usually takes more than a few hours. This involves digging through the financial information and recording it in the spreadsheet. However, we have also given you a distinct advantage in that we have already located the non-recurring charges, which can be a lengthy time-consuming process. When you come to this part of the analysis, just note the page numbers in the corresponding financial filings. It is important to connect with the language and information sources beyond simply the overall process, so that the next time that you do this analysis, you feel comfortable completing it on your own. Once you are comfortable with the steps we undertake here, we have given you another practice problem to try solving completely on your own. We will revisit that at the end of this section.

STEP 1: Enter the Basic Company Information and Calculate Dividend Yield

General Information:										1e
Company name	The TTS Company		52 Week:		Dividend Information			Exchange Rate:		
1a	Ticker symbol	TTS	High	\$65.23	Last Quarter	\$0.24	10-Q 15, p. 2	0.000		
1b	Price as of	May-15-09	Low	48.20	Annual	0.96	only for foreign companies			
1c	Share price	\$56.82	% off of high	12.9%	Yield	1.7%				

Index	General Steps & Sources	TTS Sample Company Considerations	Ref
1a	<p>Enter company name and ticker: Company name and ticker can be found quickly on Google Finance, the company's investor relations website and other database providers such as FactSet, Capital IQ, and Bloomberg. (Cell references: E7, E8)</p>	We entered The TTS Company . It is very important to get the precise name. Since TTS Company is fictitious this step is completed for you.	Company website, database providers
1b	<p>Enter current share price and related date: The share price comes from a database provider such as FactSet, Bloomberg, and Capital IQ. (Cell references E9, E10)</p>	We enter the company's share price of \$56.82 as of May 15, 2009. Since TTS Company is fictitious this step is completed for you.	Database Provider
1c	<p>Enter company share price high and low: Same sources as above. Percentage off of 52-week high = $1 - \text{current share price} / 52\text{-week high share price}$ (Cell references: H10 = 1 - E10/H8)</p>	TTS Sample Company's high is \$65.23, current share price of \$56.82 and 52-week low of \$48.20. The company's percentage off of 52-week high is 12.9% (= 1 - \$56.82/\$65.23).	Database Provider
1d	<p>Calculate dividend yield: Locate the company's dividend (typically on the income statement, MD&A, and / or footnotes) and annualize the statistic. U.S. companies often pay quarterly dividends, so the quarterly dividend is multiplied by 4. European companies often pay semi-annually, therefore the dividend may reflect 6 months of dividends, so the multiplication factor would be 2. (Cell references: K9 = K8*4)</p> <p>Divide the annualized dividend per share by the company's share price to produce a dividend yield. Be careful of "special dividends" that pay an extra dividend that is not indicative of a recurring payment. (Cell references: K10 = K9/E10)</p>	TTS Company paid a quarterly dividend of \$0.24 per share, equal to an annual dividend of \$0.96 per share (4 x \$0.24). The company's dividend yield is 1.7% (\$0.96 / \$56.82).	10-Q, Income Statement, pg. 2
1e	<p>Incorporate the exchange rate, if relevant: The exchange rate is used to translate company statistics into local currency (throughout this book it has been U.S. dollars). This rate is used when comparing companies, some of which report in foreign currencies, as in the summary page later in the analysis. (Cell reference: N8)</p>	TTS Company reports in U.S. dollars, which is the common currency used throughout this analysis, so no translation to U.S. dollars is necessary.	NA