

Chapter 12

Leverage Statistics for Insights

Statistics can help financial analysts identify trends and create more accurate forecasts. You're an equity research analyst, not a statistician; so don't be embarrassed if you haven't learned some of the more mysterious statistical terms, like Spearman's rank coefficient. But it's relatively easy to learn some basic concepts to improve your analysis. To avoid getting lost in the complexity of the statistics field, this best practice is heavily focused on creating example solution sets for an analyst researching Burlington Northern Santa Fe (BNI became a privately held company in 2010). One can't expect to cover all elements of statistics in one chapter, which is why I've chosen to focus on a few statistical concepts that most analysts can use in their daily routines:

- Appreciating differences among data series
- Using *regression* analysis to improve forecasting
- Using *multivariate regression* analysis to help prioritize financial modeling

I would like to thank Chris Gowlland for his contribution to the best practices covering the area of statistics. Chris is a senior quantitative analyst at Delaware Investments. Any material discussed here does not necessarily reflect the opinions, methods, or views of his firm.

Before delving into these topics I begin with a word of caution. There are more ways to use statistics incorrectly than correctly, even unintentionally. So beware that just because you know how to get output from an Excel statistical function doesn't mean that you're going to draw the right conclusion. Lesson here: Statistical tools can be dangerous if not fully understood.

Appreciating Differences among Data Series

In working with new research associates and junior analysts during my career, it was common to come across flawed analyses because they failed to understand that all data is not created equally. Make sure if you're comparing two data series, computing a rate of change, or appending a historical data series with new data, that you're really comparing apples with apples. Here are some important considerations that are explained more fully in Exhibit 12.1:

- Adjustments for seasonality
- Annualizing a monthly or quarterly run rate
- Adjustments for inflation
- Moving averages
- Data revisions

Using Regression Analysis to Improve Forecasting

It's fairly safe to say stock price movements are significantly impacted by changes in expected earnings or cash flows. As I discuss later in Chapter 20, these certainly aren't the only influences on stock prices, but they are definitely one of the main areas of attention. Consequently, a model to help forecast the future is an important tool. There are at least two areas where an analyst can use statistics to improve forecasting:

- Identifying macro factors that can help predict company-specific factors.

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