

TECHNOLOGY  
electronic reporting

# Using XBRL to Analyze Financial Statements

## *A Step-by-Step Spreadsheet Guide*

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Accounting and financial data has long been contained in paper documents, but it is now possible to identify, transfer, and store financial information electronically. XML (Extensible Markup Language) and XBRL (Extensible Business Reporting Language) can give us the ability to tag specific pieces (elements) of financial information so they can be used and reused in a variety of reports.

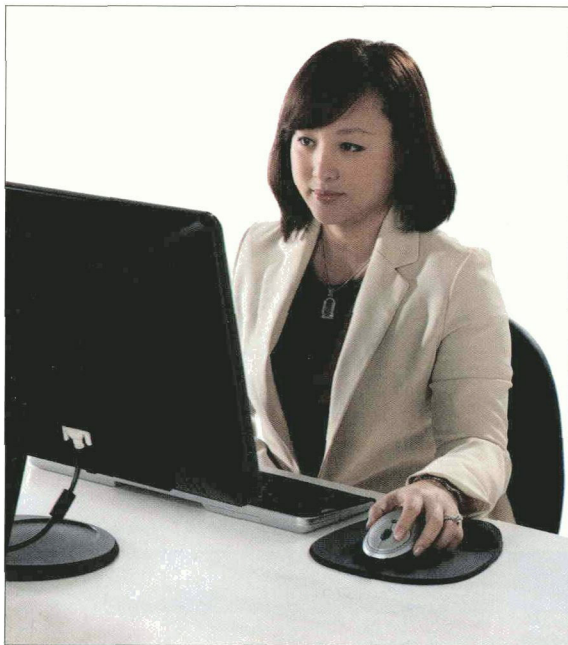
XBRL is a text and data markup language similar to HTML (Hyper Text Markup Language), created in the meta-language of XML. XBRL allows content such as financial statement elements to be electronically labeled with conceptual tags.

The discussion below will demonstrate how to use XBRL data with a spreadsheet for financial analysis. It will show how XBRL data can be easily updated in the spreadsheet as new financial data becomes available.

Both Microsoft Office versions 2003 and 2007 are XML compliant, as are most databases, accounting systems, and enterprise systems. This means that these systems can automatically tag and export data and information in XML format. Accordingly, this information can be imported into another application, such as a spreadsheet, for analysis. In addition, XML-compliant documents can be posted directly to the Internet for display, as most web browsers can read XML documents.

### **Step 1: Prepare the Spreadsheet**

The steps outlined below use Microsoft Excel 2007. Before starting the procedures outlined in this article, make sure that you have the developer tab displayed. If it is not displayed, simply click on the Microsoft Office Button in the top left corner and then choose "Excel Options" from



the drop down menu. In the dialog box, under "Top options for working with Excel," check the third box, "Show Developer tab in the Ribbon," and then click "OK."

### **Step 2: Identify the Company and Report**

This example uses the financial statements from Adobe Systems Inc., specifically its Form 10-Q for the quarter ended August 29, 2008. To download the financial statements as a PDF for use as a reference while devel-

oping the sample spreadsheet, go to [www.sec.gov](http://www.sec.gov). Click on "Search" in the upper right corner. In the "Search Company Filings" pane on the left, enter Adobe into the "Company name" field and click on "Find Companies." As the example uses Adobe Systems Inc., click on CIK number 0000796343 to see the filings. Scroll down to the 10-Q filing dated 2008-10-02 and click on the "Documents" button. From the resulting list, click on the file "form10qunofficial.pdf.pdf."

Pages 1 to 5 of the 10-Q of the PDF can be used as a reference.

### Step 3: Download the XBRL Report

To download the XBRL-compliant report from the SEC for 10-Q, follow the steps above. Then, look down the list of documents, below the PDF, and right-click the XBRL Instance Document file named "adbe-20080916.xml." Choose "Save Target As..." and save the file to the desk-

top or other desired location. Refer to *Exhibit 1*.

### Step 4: Open the XML Source within an Excel Spreadsheet

The next step is to integrate the tagged data source into the spreadsheet. To access the tagged data, complete the following procedures:

- From within Microsoft Excel, open the XML file downloaded in step 3.

Excel will recognize the file as an XML file, and an "Open XML" dialog box will appear. Select "Use the XML Source task pane" and click "OK."

A dialog box that states: "The specified XML source does not refer to a schema. Excel will create a schema based on the XML source data" will then appear. The user should click "OK."

The tagged data will be shown in a sidebar of the Excel spreadsheet. Excel has created a taxonomy of tags from the structured XML-compliant document.

### Step 5: Determine the Output Information and Identify the Input Data

With the data in hand, a user can determine whatever information is needed, such as financial ratios, horizontal analysis, and vertical analysis. Four ratios will suffice to demonstrate the process. *Exhibit 2* shows the input data and the related XBRL tags and cell locations.

After the data needs are determined, a user can work on importing the input data to produce the output information. Input data should only be entered once.

### Step 6: Map the XBRL Tags into the Input Section

Once all of the XBRL tags are shown in the source task pane, it is a simple process to map the data elements to the cells in the input data section of the spreadsheet. Two methods can be used to map the data: 1) click on the data element <value> and drag it to the target cell or 2) select the target cell on the spreadsheet and double-click on the data item <value> shown in the source task pane.

Data elements can only be mapped to one cell; the same element cannot be mapped to two different cells. If the data is needed in more than one cell, simply add a formula (e.g., +A2) to put the data in a second cell. It may be helpful to show the actual numerical data in the XML Source task pane while mapping. To do so, simply click the "Options" menu on the bottom of the XML Source task pane and select "Preview Data in Source Pane." Once mapped, the cell has a blue background, and in the source task pane, the data element is bolded to indicate it has already been mapped. When bringing the tags into the spreadsheet, the name of the tag is automatically placed above the

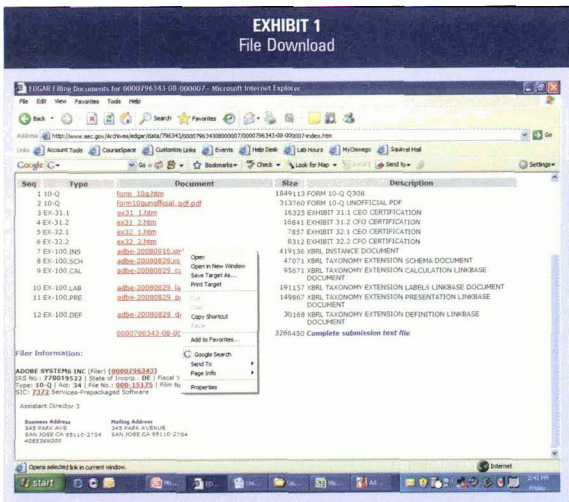


EXHIBIT 2  
Input Data

Excel Input Cell	XBRL Tag Name	Value in Thousands
B3	ns3:CashAndCashEquivalentsAtCarryingValue	1,134,263
B9	ns3:ShortTermInvestments	866,641
B13	ns3:AccountsReivableNetCurrent	327,970
B17	ns3:AssetsCurrent	2,517,120
B21	ns3:LiabilitiesCurrent	661,663
E3	ns3:Revenues	887,257
E9	ns3:GrossProfit	776,406
E15	ns3:NetIncomeLoss	191,608

data. To remove the tag names and use custom names, simply uncheck the "Header Row" box within the "Table Style Options" on the Design Tab.

The input data required to calculate the desired output information in this example are: current assets, current liabilities, cash, short-term investments, accounts receivable, net income, sales, and gross profit. The following steps will include this data in the input section and program the cells in the output section to calculate the desired ratios: current ratio, quick ratio, profit margin, and gross profit margin.

The data will appear in the spreadsheet cells once the import function is complete. When the data is imported, the financial statements are comparative, so the data will take up two rows for the balance sheet: one for the current year, listed first, and one for the prior year. The data will take up four rows on the income statement, as four columns appear on the Adobe income statement. Refer to *Exhibit 3* for a view of the completed spreadsheet prior to importing the XML data.

#### Step 7: Populate the Spreadsheet by Importing the Data

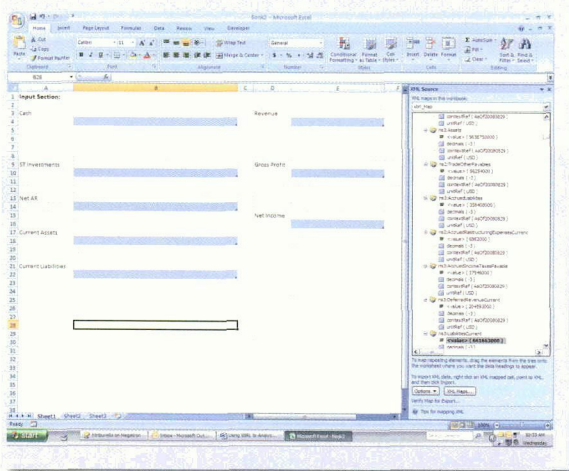
Once the spreadsheet is mapped and labeled, it is time to import the data. The authors have found that it is easier to enter the formulas for the output section after the data has been imported. To do so, simply place the cursor in any cell. Click on the "Developer Tab" and then click "Import." An XML Import dialog box will appear. Select the file with the XML data in it and click "Import." The data will be pulled into the spreadsheet cells. See *Exhibit 4* for a screenshot of an Excel spreadsheet with the imported XML-compliant data. One can now format the data with commas and decimals, as well as place lines and borders as appropriate. Compare the data imported to the printout of the 10-Q to note that the imported data is comparative financial information.

#### Step 8: Create the Formulas

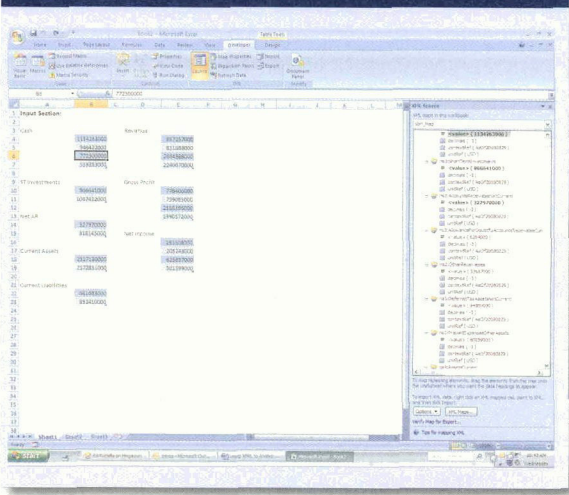
At this point, the cell formulas can be entered into the output section of the spreadsheet. The Excel formulas and their related addresses are shown in *Exhibit 5*.

The spreadsheet is organized with input and output sections so that changes

**EXHIBIT 3**  
Spreadsheet View Prior to Import of Data



**EXHIBIT 4**  
XML Data Imported



in the input data have no effect on the output information. As a result, the data can be updated quickly without re-creating the cell formulas. *Exhibit 6* presents the completed spreadsheet, which includes the formatted data as well as formulas for the financial statement analysis.

### Step 9: Change the Input Section

The real power of this technique comes from the ability to update the spread-

sheet with additional data. To show this, download the next quarter's 10-Q for Adobe Systems, the quarter ending February 28, 2009. It is under the filing date 2009-04-03 and has the file name of adbe-20090227.xml (see Step 2). Follow the instructions to import the data (Step 7). The data from this file can now be incorporated into the spreadsheet, and the financial statement ratios are automatically recalculated.

### Possibilities of Electronic Data

SEC Chair Mary Schapiro recently announced that the EDGAR (Electronic Data Gathering and Retrieval) system will be replaced by a new system. EDGAR was developed in the 1980s to store public company filings, such as 10-Ks and 10-Qs. The EDGAR system is a text-based document system, which makes it difficult to retrieve individual pieces of data from the stored financial information. The SEC's new IDEA (Interactive Data Electronic Applications) system will be data-based, allowing users to search and retrieve data items, such as revenue or retained earnings. The new IDEA system will place electronic XBRL tags around data items so that they can be efficiently searched and retrieved for financial analysis. Because XBRL and XML are open source systems, they are free of license fees. In addition, XBRL is extensible so companies can modify the basic taxonomy (with XML) to fit their needs.

The uses of such technologies are numerous. Auditors can use these skills to quickly look at benchmarking data and use during analytical procedures within an engagement. This can also be helpful when analyzing companies as potential investment and acquisition targets. The advantages of XBRL are manifold. For example, automatic tagging of data and information is now available with accounting software, database, and enterprise systems. With XBRL, analysts can drill down to the transaction level from the financial reports. Another advantage is quicker and more periodic reporting capabilities, as well as real-time reporting and auditing.

With the recent SEC mandate for the 500 largest publicly held companies to use XBRL, the data is there. Accordingly, CPAs must learn how to work with, and profit from, this new form of information. □

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**EXHIBIT 5**  
Spreadsheet Formulas for Output Section

Ratio	Calculation	Cell	Excel Formula
Current Ratio	$\frac{\text{Current Assets}}{\text{Current Liabilities}}$	B27	=B18/B22
Quick Ratio (Acid Test)	$\frac{\text{Cash} + \text{S.T. Investments} + \text{A.R.}}{\text{Current Liabilities}}$	B28	=(B4+B10+B14)/B22
Gross Profit Percentage (Gross Margin Ratio)	$\frac{\text{Gross Profit}}{\text{Sales or Revenue}}$	B29	=E10/E4
Profit Margin Percentage (Return on Sales)	$\frac{\text{Net Income}}{\text{Sales or Revenue}}$	B30	=E16/E4

**EXHIBIT 6**  
Completed Spreadsheet

