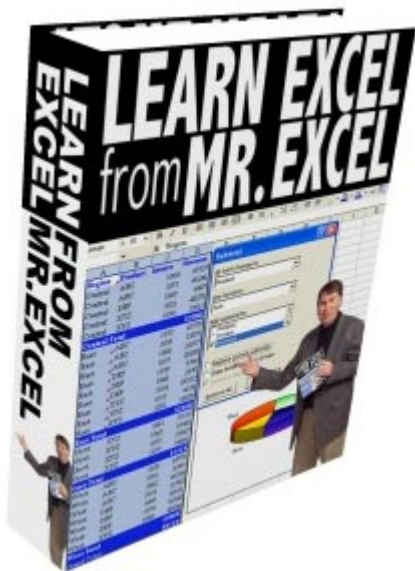




USE A PIVOT TABLE TO SUMMARIZE DETAILED DATA

Problem: You have 50,000 rows of sales data, as shown in Fig. 841. You want to produce a summary report showing sales by region and product.

	A	B	C	D	E	F	G	H
1	Region	Product	Date	Customer	Quantity	Revenue	COGS	Profit
2	East	XYZ	1-Jan-04	Ford	1000	22810	10220	12590
3	Central	DEF	2-Jan-04	Verizon	100	2257	984	1273
4	East	ABC	2-Jan-04	Verizon	500	10245	4235	6010
5	Central	XYZ	3-Jan-04	Ainsworth	500	11240	5110	6130
6	Central	XYZ	4-Jan-04	Ainsworth	400	9204	4088	5116
7	East	DEF	4-Jan-04	Gildan Activewear	800	18552	7872	10680
8	East	XYZ	4-Jan-04	Texaco	400	9152	4088	5064

Fig. 841

Strategy: Use a pivot table. As Excel's most powerful feature, pivot tables are well suited to this type of analysis. Follow these steps.

- 1) Ensure that your data is in list format. It is important that every heading be unique.
- 2) Select a single cell in the database. From the Data menu, select Pivot Table and Pivot Chart Report....
- 3) Choose Next in Wizard Step 1 to confirm that your data is in Excel, as shown in Fig. 842.

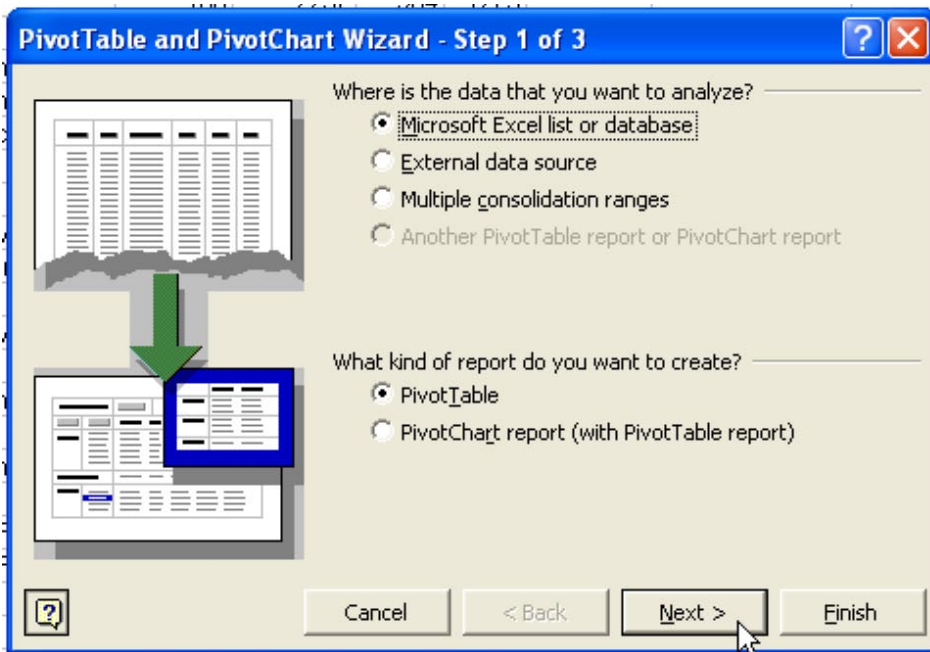


Fig. 842

- 4) In Step 2, Excel's intellisense will guess the range of your data. It is usually correct. Choose Next, as shown in Fig. 843.

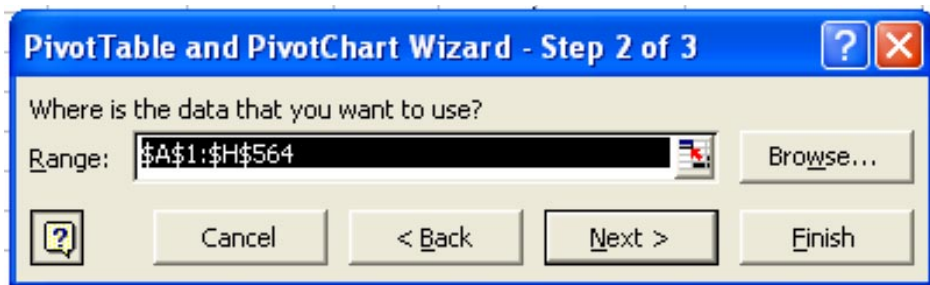


Fig. 843

- 5) In Wizard Step 3, choose the Layout button in the lower left corner, as shown in Fig. 844.



Fig. 844

You will now see the powerful layout dialog. As shown in Fig. 845, all of your available fields are along the right side of the dialog. On the left side of the dialog is a template where you can drop various fields.

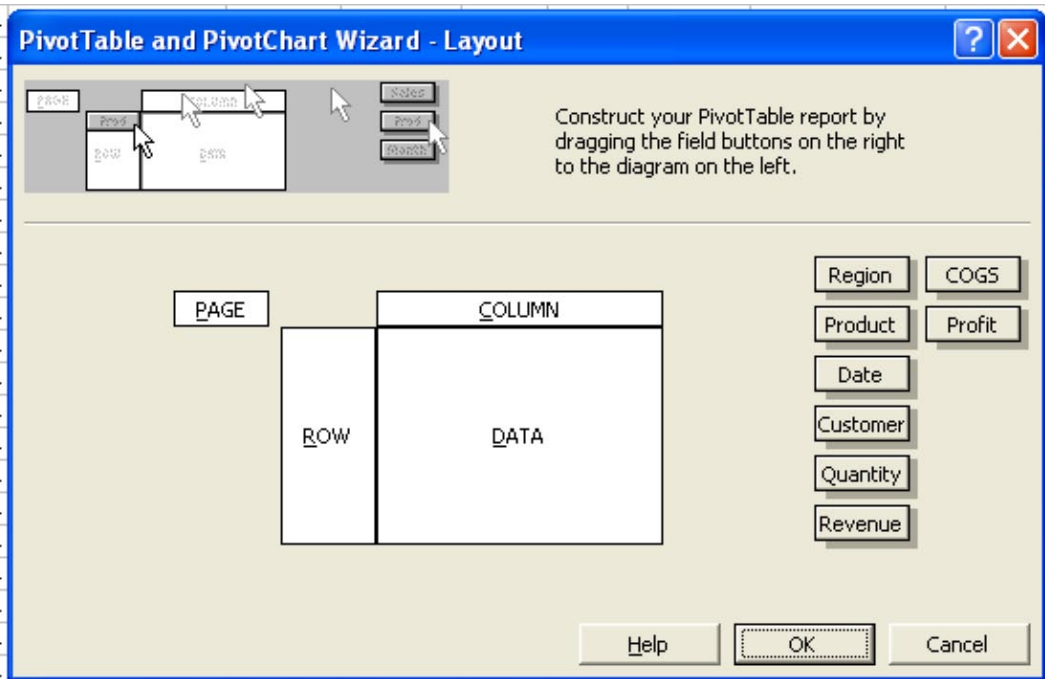


Fig. 845

To build your pivot table, you will drag a field to the proper location. In this case you will want to have products going down the side of the report and regions going across the top.

- 6) Drag the Product field from the Field list and drop it in the Row area of the layout, as shown in Fig. 846.

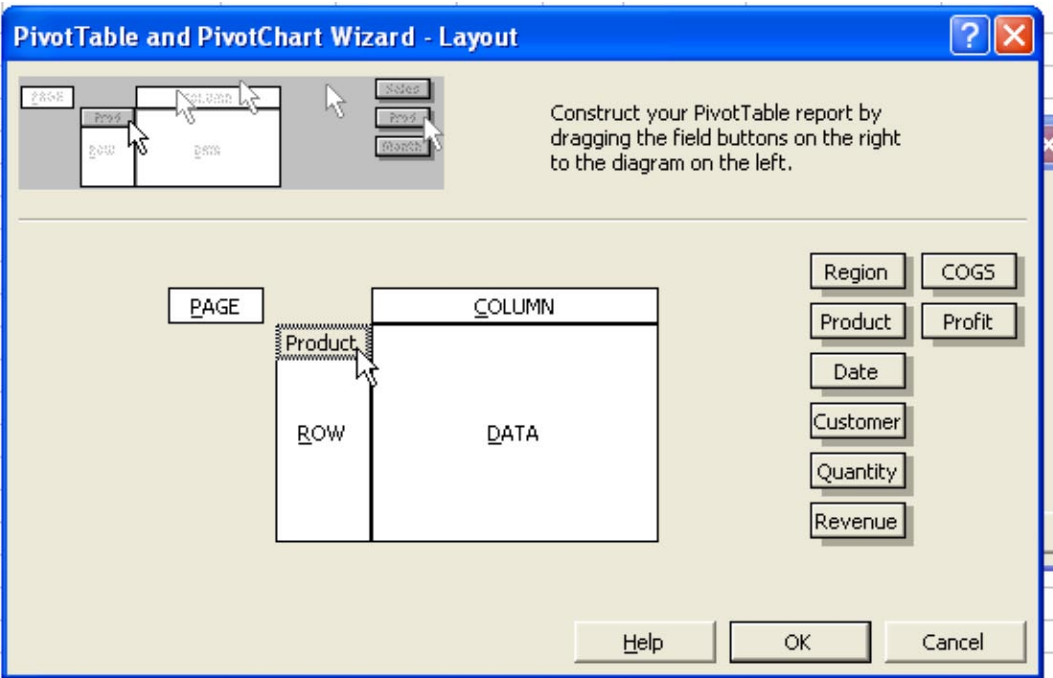


Fig. 846

- 7) Drag the Region field from the Field list and drop it in the Column area of the layout, as shown in Fig. 847.

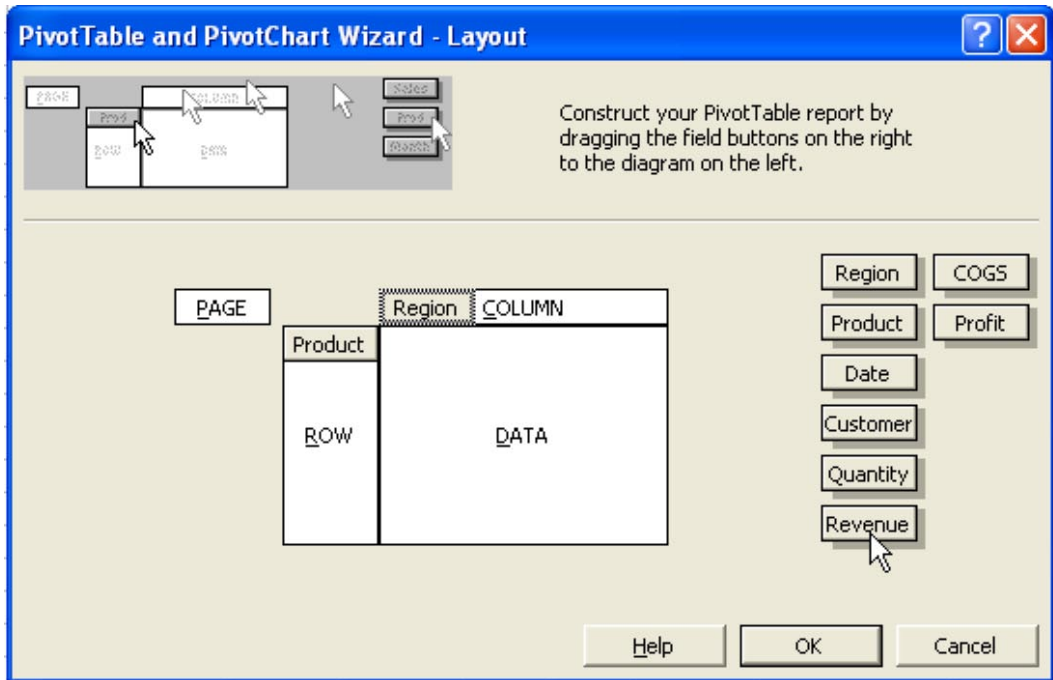


Fig. 847

- 8) Drag the Revenue field to the Data area of the layout. When you drop a field in the Data area of the layout, Excel chooses a default operation. In this case, Excel correctly chose Sum of Revenue, as shown in Fig. 848. However, if Excel encounters any cells with text or blanks, it will instead choose to use Count of Revenue.

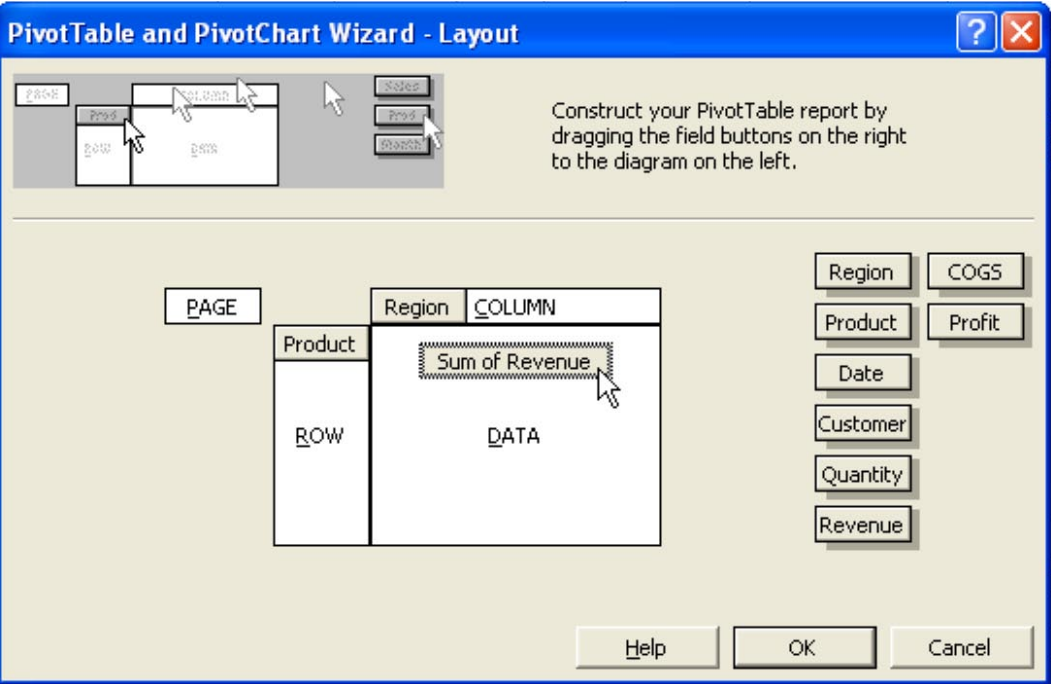


Fig. 848

- 9) If Excel’s guess for the function in the Data area is incorrect, double click the field to display the PivotTable Field dialog, as shown in Fig. 849. Select the correct function for summarization. Choose OK to close the Layout dialog. You will be back in Step 3 of the Wizard.



Fig. 849

- 10) As shown in Fig. 850, you are given a choice of creating the pivot table on a new sheet or in a blank section of the current worksheet. For this example, choose to have the pivot table on a new sheet.



Fig. 850

- 11) Click OK. In a few seconds, the 50,000 rows of data will be summarized and presented on a new worksheet, as shown in Fig. 851.

	A	B	C	D	E
1	Drop Page Fields Here				
2					
3	Sum of Revenue	Region			
4	Product	East	Central	West	Grand Total
5	ABC	703255	766469	631646	2101370
6	DEF	891799	776996	494919	2163714
7	XYZ	897949	832414	712365	2442728
8	Grand Total	2493003	2375879	1838930	6707812
9					
10					

Fig. 851

Additional Details: Pivot tables offer many powerful options. Although this chapter offers the steps to create your first pivot table, you should read the next several cases to learn more about pivot tables.

Summary: The pivot table command allows you to summarize thousands of rows of data quickly. It does not require you to know any formulas. You just need to be able to drag fields to a report.

Commands Discussed: Data – Pivot Table

YOUR MANAGER WANTS YOUR REPORT CHANGED

Problem: You present your first pivot table report, as shown in Fig. 852, to your manager. He says, “This is almost perfect, but could you have the products going across the top and the regions going down the side?”

	A	B	C	D	E
1					
2					
3	Sum of Revenue	Region			
4	Product	East	Central	West	Grand Total
5	ABC	703255	766469	631646	2101370
6	DEF	891799	776996	494919	2163714
7	XYZ	897949	832414	712365	2442728
8	Grand Total	2493003	2375879	1838930	6707812
9					

Fig. 852

Strategy: Pivot tables make this easy.

- 1) On the worksheet, click on the gray Product field, then drag and drop it next to Region, as shown in Fig. 853.

	A	B	C	D	E
1					
2					
3	Sum of Revenue	Region			
4	Product	East	Central	West	Grand Total
5	ABC	703255	766469	631646	2101370
6	DEF	891799	776996	494919	2163714
7	XYZ	897949	832414	712365	2442728
8	Grand Total	2493003	2375879	1838930	6707812
9					

Fig. 853

- 2) When you release the mouse button, the pivot table will instantly redraw, as shown in Fig. 854.

	A	B	C	D	E	F	
1							Drop Page F
2							
3	Sum of Revenue	Product ▼	Region ▼				
4		ABC			ABC Total	DEF	
5		East	Central	West		East	Ce
6	Total	703255	766469	631646	2101370	891799	77

Fig. 854

- 3) Using the mouse, grab the gray Region field, then drag and drop it to the left of cell A4, as shown in Fig. 855.

	A	B	C	D
1				
2				
3	Sum of Revenue	Product ▼	Region ▼	③
4		ABC		
5		East	Central	West
6	Total	703255	766469	631646
7				

Fig. 855

- 4) When you release the mouse button, the pivot table will redraw, as shown in Fig. 856.

	A	B	C	D	E
1					
2					
3	Sum of Revenue	Product ▼			
4	Region ▼	ABC	DEF	XYZ	Grand Total
5	East	703255	891799	897949	2493003
6	Central	766469	776996	832414	2375879
7	West	631646	494919	712365	1838930
8	Grand Total	2101370	2163714	2442728	6707812

Fig. 856

Result: With two movements of the mouse, you have created a new report for the manager.

Additional Details: Watch the mouse pointer as you drag fields around a pivot table. There are five possible cursors. As shown in Fig. 857, the blue portion of the cursor shows where the field will be dropped when you release the mouse button. In the following image, the first cursor shows a field about to be dropped in the Row area. The second cursor shows a field about to be dropped in the Column area. The third cursor shows a field about to be dropped in the Data area. The fourth cursor shows a field about to be dropped in the Page area (discussed later). The fifth cursor shows a field about to be removed from the pivot table – this happens if you drag the field too far outside of the boundary of the pivot table.



Fig. 857

Summary: The first amazing feature of pivot tables is that they can summarize massive amounts of data very quickly. This topic shows the second amazing feature – pivot tables can be quickly changed to show another view of the data.

Commands Discussed: Data – Pivot Table

MOVE OR CHANGE PART OF A PIVOT TABLE

Problem: If you try to insert a row in a pivot table, you are greeted with a message saying that you cannot change, move, or insert cells in a pivot table, as shown in Fig. 858.

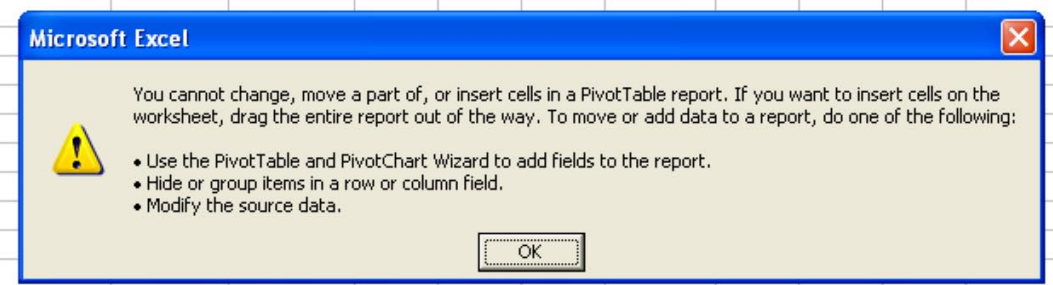


Fig. 858

Strategy: This is correct; you cannot do a lot of things to a finished pivot table. While the flexibility of pivot tables is awesome, sometimes you just want to take the results of the pivot table and turn off the pivot features. If you want to take the data and re-use it somewhere else, you can convert the pivot table to regular data using Paste Special Values. Follow these steps.

- 1) Select the entire pivot table, as shown in Fig. 859. Be sure to include the two blank rows at the top of the table (known as the Page area).

	A	B	C	D	E
1	Drop Page Fields Here				
2					
3	Sum of Revenue	Product			
4	Region	ABC	DEF	XYZ	Grand Total
5	East	703255	891799	897949	2493003
6	Central	766469	776996	832414	2375879
7	West	631646	494919	712365	1838930
8	Grand Total	2101370	2163714	2442728	6707812

Fig. 859

- 2) Hit Ctrl+C to copy.
- 3) From the menu, select Edit – Paste Special – Values – OK, as shown in Fig. 860.

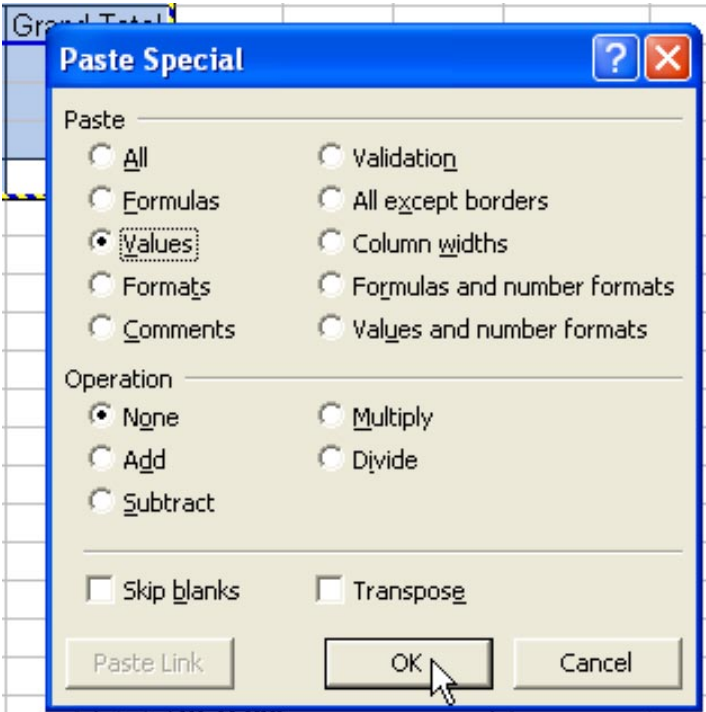


Fig. 860

This action will change the pivot table from a live pivot table to just values in cells. You can now insert rows and columns to your heart’s content, as shown in Fig. 861.

	A	B	C	D	E	F
1						
2						
3	Sum of Revenue	Product				
4	Region	ABC	DEF	XYZ		Grand Total
5	East	703255	891799	897949		2493003
6	Central	766469	776996	832414		2375879
7	West	631646	494919	712365		1838930
8						
9	Grand Total	2101370	2163714	2442728		6707812

Fig. 861

Summary: When doing data analysis, it is common to use a pivot table to get the result, but then to convert the pivot table from a live table to static values using Paste Special Values.

Commands Discussed: Data – Pivot Table; Edit – Paste Special

SEE DETAIL BEHIND

ONE NUMBER IN A PIVOT TABLE

Problem: One number in the Pivot Table seems to be wrong. For example, maybe the Government region does not typically buy a certain product line from you, yet they are shown with that product in the report, as shown in Fig. 862.

	A	B	C	D	E	F
1						
2						
3	Sum of Revenue	Region				
4	Product	East	Central	West	Government	Grand Total
5	ABC	703255	766469	631646	10290	2111660
6	DEF	891799	776996	494919		2163714
7	XYZ	897949	832414	712365	24685	2467413
8	Grand Total	2493003	2375879	1838930	34975	6742787

Fig. 862

Strategy: You can see the detail behind any number in a pivot table by double-clicking on the number. If the \$10,290 in sales of product ABC to the government seems unusual, double-click cell E5. As shown in Fig. 863, a new worksheet is inserted with all of the records that make up the \$10,290. In this case, it is just one record, which seems to have been coded to the wrong region.

	A	B	C	D	E	F	G	H
1	Region	Product	Date	Customer	Quantity	Revenue	COGS	Profit
2	Government	ABC	12/28/2004	General Motors	600	10290	5082	5208
3								

Fig. 863

Additional Information: If you double-click on a number in the total row or total column, you will see all of the records that make up that number. Drilling down on E8 in the original pivot table will show the records that make up the \$34,975, as shown in Fig. 864.

	A	B	C	D	E	F	G	H
1	Region	Product	Date	Customer	Quantity	Revenue	COGS	Profit
2	Government	ABC	12/28/2004	General Motors	600	10290	5082	5208
3	Government	XYZ	12/27/2004	IBIS	700	15225	7154	8071
4	Government	XYZ	12/27/2004	IBIS	500	9460	4235	5225
5								

Fig. 864

Gotcha: Each drill down creates a new worksheet. The new worksheet is just a snapshot in time of what made up the original number. If you detect a wrong number in the drill down report, you need to go back to the original data to make the correction.

Summary: Given the power to summarize data in a pivot table, you are likely to spot information that might point to a problem in the underlying data. With 50,000 rows of data, it is likely that someone miscoded the region on a few of the records. Until you look at a pivot table with a quick summary, it is hard to spot obvious problems like the one shown here. When you see a number that seems suspicious in a pivot table, double-click the number to drill down and see the records behind the data.

Commands Discussed: Data – Pivot Table