

# How to Calculate Differences Between Two Excel Pivot Tables: A Step-by-Step Guide

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**Microsoft Excel** is the definitive tool for handling complex datasets, and the **Pivot Tables** feature stands out as the most powerful way to summarize, categorize, and report critical business metrics. While generating a single pivot table to view aggregated data is straightforward, the true power of advanced analytics often lies in performing comparative analysis--specifically, calculating the precise difference between two distinct data aggregations.

Comparing two separate Pivot Tables, perhaps representing performance across different years, regions, or product lines, is essential for identifying trends, measuring variance, and making informed decisions. There are several methodologies available in Excel to achieve this comparative calculation. The most direct method involves referencing specific cells or using standard subtraction formulas against the aggregated values. However, for robust, dynamic, and error-proof comparisons, especially when the Pivot Table structure changes (e.g., due to filtering or adding new fields), dedicated functions are necessary.

This comprehensive guide focuses on the most reliable technique for calculating this variance: leveraging the **GETPIVOTDATA** function. This function allows us to extract specific, named values from a Pivot Table regardless of its physical layout on the spreadsheet, enabling a stable comparison between values derived from entirely separate summaries. We will explore the necessity of this approach and provide a highly detailed example demonstrating its practical application in advanced data analysis.

The methodologies discussed below are crucial for any analyst required to benchmark performance across different time periods or categories. We will begin by establishing the scenario and then delve into the precise formula construction using the powerful data extraction technique inherent in Excel.

## Understanding the Need for Robust Data Extraction

When comparing data points across two different Pivot Tables, a common mistake is using simple cell references, such as `=A5-B5`. While this works initially, Pivot Tables are dynamic structures. If the underlying source data is updated, or if new filters or fields are added, the dimensions of the table can shift, causing the referenced cell (A5 or B5) to contain entirely different data, or potentially throw a reference error.

To mitigate this instability, we must use a formula that references the **data field name** and the **associated item labels**, not the physical cell address. This is precisely what the **GETPIVOTDATA** function is designed to do. It ensures that even if rows are added, removed, or transposed, the formula will always pull the value corresponding to the specified combination of parameters (e.g., "Sum of Sales" for "Store A").

This approach transforms a fragile subtraction into a resilient calculation, ensuring the integrity of

your comparative reports. We are essentially asking Excel: "Find the total sales value associated with Store A within this specific Pivot Table," and then subtracting the result of the same query applied to the second table.

### Example: Calculate Difference Between Two Pivot Tables

To demonstrate this powerful comparison technique, let us establish a scenario involving two separate sets of aggregated data. Suppose we have two **Pivot Tables**, strategically placed on the same sheet or even separate sheets, that show the total sales and returns for various stores but are segregated by year: one table covers Year 1 (2020 data) and the other covers Year 2 (2019 data).

Our objective is to calculate the precise variance in both **Sum of Sales** and **Sum of Returns** for each individual store between the two years, allowing us to quickly ascertain whether performance improved or declined year-over-year. This requires a stable formula that can handle both Pivot Tables without relying on their static location.

D	E	F	G	H	I
	<b>2020</b>				
	<b>Row Labels</b>	<b>Sum of Sales</b>	<b>Sum of Returns</b>		
	A	38	4		
	B	51	13		
	C	53	10		
	<b>Grand Total</b>	<b>142</b>	<b>27</b>		
	<b>2019</b>				
	<b>Row Labels</b>	<b>Sum of Sales</b>	<b>Sum of Returns</b>		
	A	16	6		
	B	23	8		
	C	26	6		
	<b>Grand Total</b>	<b>65</b>	<b>20</b>		

As illustrated in the data structure above, we have two distinct summaries. The top Pivot Table

summarizes the 2020 activity, while the bottom Pivot Table summarizes the 2019 activity. We need a clean method to calculate the difference in the **Sum of Sales** and **Sum of Returns** columns between these two aggregates.

## Detailed Application of the GETPIVOTDATA Function

The core of this calculation relies on constructing two separate **GETPIVOTDATA** formulas and subtracting the second result from the first. The standard syntax for this function is:

```
GETPIVOTDATA(data_field, pivot_table, , ...).
```

Let us break down the components required to calculate the difference in the **Sum of Sales** for Store **A** specifically:

**Data Field:** "Sum of Sales" (This is the value we want to extract).

**Pivot Table 1 Reference:** A cell within the Pivot Table summarizing the 2020 data (the starting point for subtraction). In the example, this is cell  $\$E\$2$ .

**Pivot Table 2 Reference:** A cell within the Pivot Table summarizing the 2019 data (the value to be subtracted). In the example, this is cell  $\$E\$10$ .

**Field/Item Pairs:** We specify the filtering criteria. In this case, the field is "Team" and the item is "A".

To calculate the difference in the **Sum of Sales** columns between the two pivot tables for just store **A** (i.e., Sales 2020 minus Sales 2019), we construct the following formula:

```
=GETPIVOTDATA("Sum of Sales", $\$E\$2$ ,"Team","A")-GETPIVOTDATA("Sum of Sales", $\$E\$10$ ,"Team","A")
```

Note that the Pivot Table references ( $\$E\$2$  and  $\$E\$10$ ) are absolute references, which is critical if you plan to copy the formula to calculate differences for other stores.

## Executing the Formula and Verifying Results

The formula shown above should be entered into a cell outside of both Pivot Tables, ideally in a dedicated reporting section, perhaps labeled "Variance." Upon execution, the formula retrieves the required data points and performs the subtraction. For the defined data set, the formula performs the following calculation:

**Value from Pivot Table 1 (2020 Sales for Store A):** 38

**Value from Pivot Table 2 (2019 Sales for Store A):** 16

**Difference Calculation:**  $38 - 16 = 22$ .

The resulting value of 22 correctly represents the increase in sales experienced by Store A between the two time periods. The following screenshot visually confirms the application of the formula in practice, yielding the expected result.

=GETPIVOTDATA("Sum of Sales", \$E\$2, "Team", "A")-GETPIVOTDATA("Sum of Sales", \$E\$10, "Team", "A")

D	E	F	G	H	I	J	K
	<b>2020</b>						
	<b>Row Labels</b>	<b>Sum of Sales</b>	<b>Sum of Returns</b>				
	A	38	4				
	B	51	13				
	C	53	10				
	<b>Grand Total</b>	<b>142</b>	<b>27</b>				
	<b>2019</b>						
	<b>Row Labels</b>	<b>Sum of Sales</b>	<b>Sum of Returns</b>				
	A	16	6				
	B	23	8				
	C	26	6				
	<b>Grand Total</b>	<b>65</b>	<b>20</b>				
	<b>Difference</b>						
	A	22					
	B						
	C						

The stability of this method is evident: even if new categories (e.g., Store E, Store F) were added to the Pivot Tables, causing the row for Store A to move from row 3 to row 5, the formula would still accurately return the value 22 because it searches based on the field/item pair ("Team", "A") rather than the physical location.

## Scaling the Comparison Across Multiple Categories

While the initial example focused on Store A, the true benefit of using **GETPIVOTDATA** is its scalability. We can easily adapt this formula to calculate the variance for all stores (B, C, D) and for the other data field (Sum of Returns).

To scale the calculation efficiently, it is highly recommended to place the store names (A, B, C, D)

in a column next to the calculation area. Then, modify the formula to reference this external cell containing the store name, replacing the hardcoded text "A". This relative referencing technique allows the formula to be dragged down, automating the comparison for all subsequent stores.

For instance, if the list of stores starts in cell G2, the component of the formula "Team", "A" would be replaced with "Team", G2. When dragged down, G2 changes to G3, G4, and so on, automatically pulling the difference for each store listed.

=GETPIVOTDATA("Sum of Returns", \$E\$2, "Team", "C")-GETPIVOTDATA("Sum of Returns", \$E\$10, "Team", "C")								
D	E	F	G	H	I	J	K	L
	<b>2020</b>							
	<b>Row Labels</b>	<b>Sum of Sales</b>	<b>Sum of Returns</b>					
	A	38	4					
	B	51	13					
	C	53	10					
	<b>Grand Total</b>	<b>142</b>	<b>27</b>					
	<b>2019</b>							
	<b>Row Labels</b>	<b>Sum of Sales</b>	<b>Sum of Returns</b>					
	A	16	6					
	B	23	8					
	C	26	6					
	<b>Grand Total</b>	<b>65</b>	<b>20</b>					
	<b>Difference</b>							
	A	22	-2					
	B	28	5					
	C	27	4					

The resulting comparison table, as shown above, provides a clear, high-level summary of the year-over-year performance variance. We can now quickly identify which stores saw the largest increase or decrease in sales and returns simply by scanning the differences calculated using the dynamic **GETPIVOTDATA** method. This structure is flexible, clean, and ideal for inclusion in executive dashboards or regular financial reports.

## Advanced Considerations and Limitations

Although the **GETPIVOTDATA** function is highly effective, users must be aware of certain technical nuances and limitations:

**Exact Naming:** The function requires exact field and item names. If a field is named "Team" in the Pivot Table, using "Store Team" in the formula will result in a **#REF!** error. Case sensitivity must also be respected in some versions of Excel, although it is often forgiving with item names.

**Handling Non-Existent Data:** If you try to extract data for an item (e.g., "Store E") that does not exist in one of the Pivot Tables, the function will return a **#REF!** error. Analysts often nest the **GETPIVOTDATA** function within an **IFERROR** function to handle these cases gracefully, replacing the error with a 0 or a placeholder text like "N/A."

**Disabled Automatic Generation:** Excel automatically generates **GETPIVOTDATA** when you click on a cell within a Pivot Table. However, some users disable this default behavior. If you prefer using traditional cell references for calculations outside of comparative analysis, you can disable this feature via the Pivot Table Options menu, though this is discouraged for robust comparisons.

The use of **GETPIVOTDATA** is fundamental to creating highly automated and resilient reports derived from dynamic **Pivot Tables**. By understanding its syntax and correctly identifying the data source cells and field/item pairs, analysts can perform complex comparative data analysis with confidence, regardless of changes occurring within the summarized data structures.

**Note:** You can find the complete documentation for the **GETPIVOTDATA** function in Excel via the official Microsoft Support website.