

# Ex05

**Introduction:** Power BI provides various transformation features. Some very straight forward, whereas there are few a bit challenging to use.

**Objective:** Learn how to use Pivot & Unpivot Transformations.

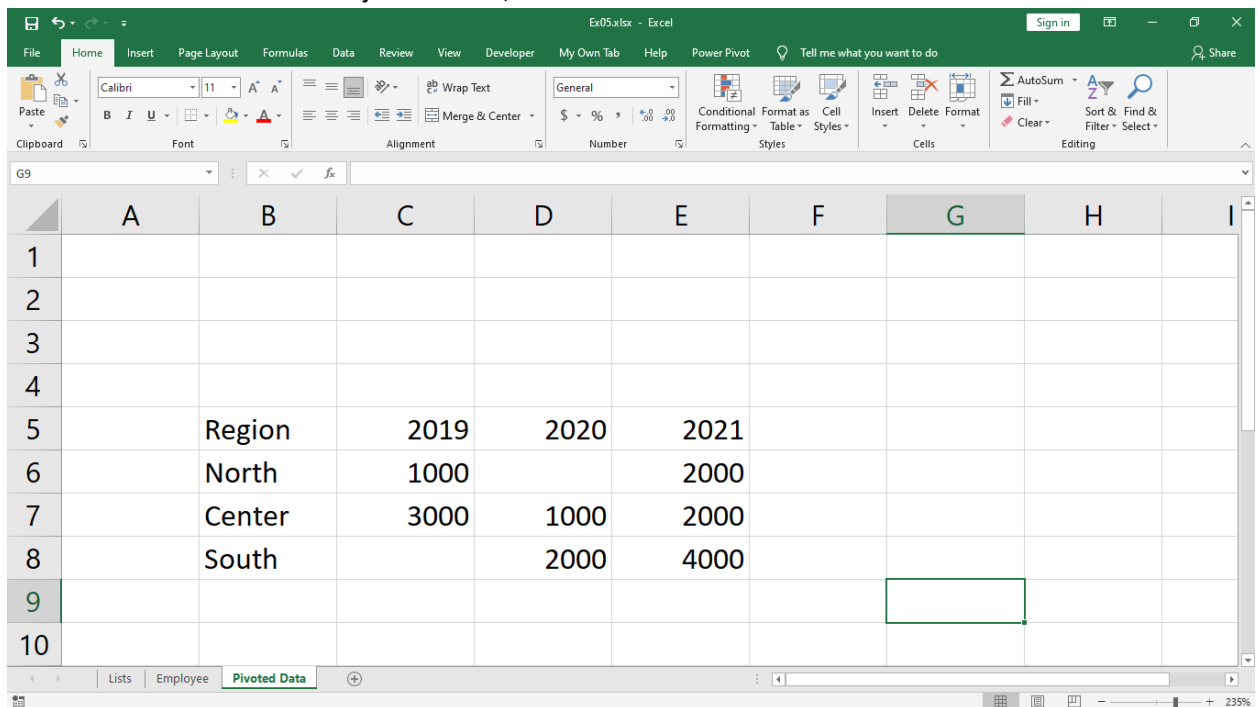
**Pre-requisites:**

- 1) Understand how to load data from MS Excel
- 2) Basic transformation in Power BI.

**Steps:**

## Part-1: Prepare Data Workbook

1. Copy from Ex04.xlsx and rename it as “Ex04.xlsx”. We will extend the data set from Exercise 4.
2. From the workbook Ex05.xlsx just created, add a new worksheet “Pivoted Data” as below:



The screenshot shows an Excel spreadsheet with the following data:

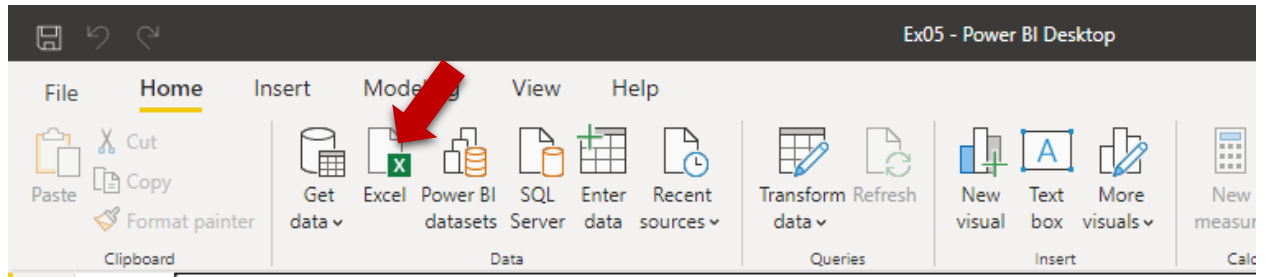
	A	B	C	D	E	F	G	H	I
1									
2									
3									
4									
5		Region	2019	2020	2021				
6		North	1000		2000				
7		Center	3000	1000	2000				
8		South		2000	4000				
9									
10									

## Part-2: To Unpivot Data

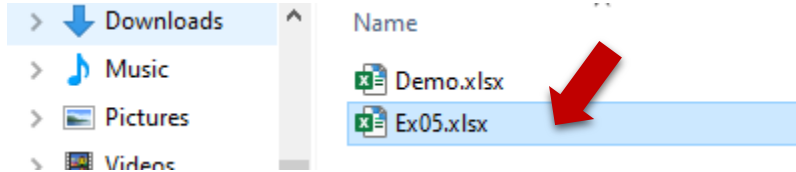
3. Create new Power BI project with name “Ex05.pbix”.



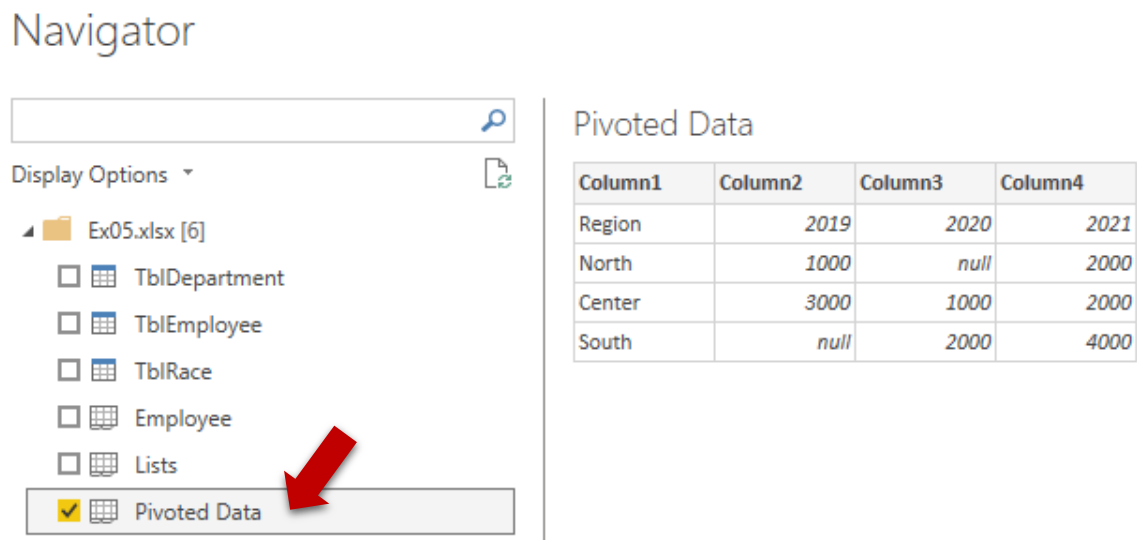
4. From the main UI, select load Excel data source:



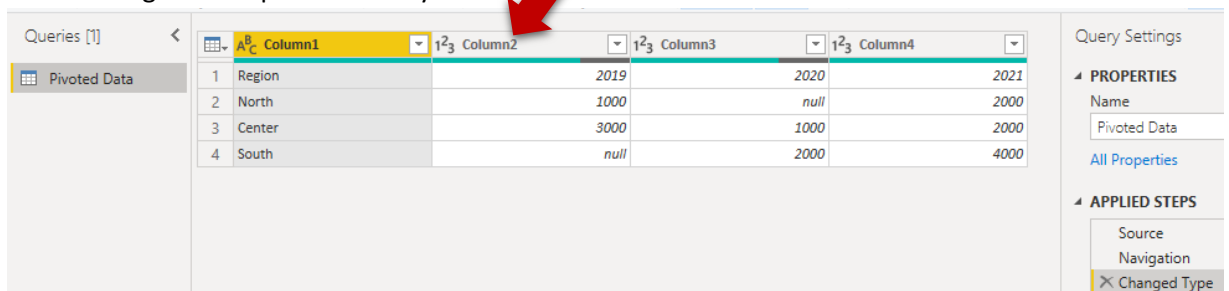
5. In the "Open" dialog box, select excel workbook "Ex03.xlsx" you just created:



6. From the "Navigator" dialog box, select worksheet "Pivoted Data" only. (Don't load at this moment):

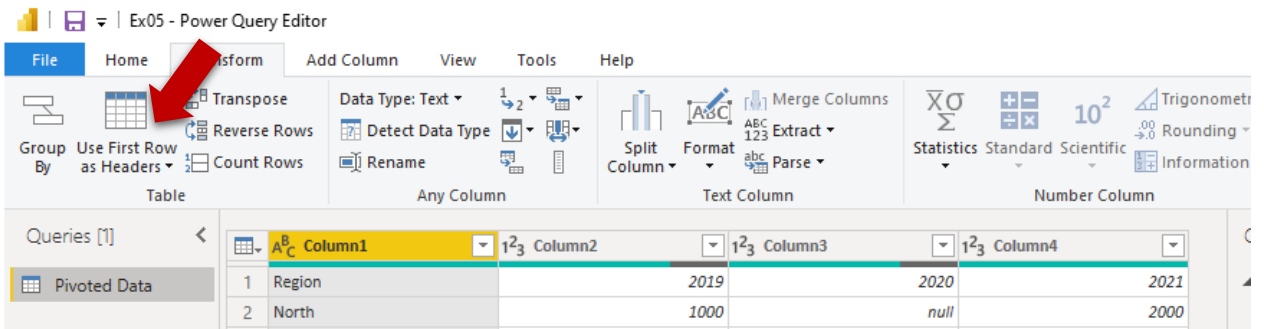


7. While still under "Navigator" dialog box, press the "Transform Data" button at the bottom right of the dialog box to open the Query Editor:



8. Beware that something is not right about the header. This is due to the header seems fulfill the format of record, therefore Power BI mistaken it is a record. To overcome this problem, we need to promote the first row as header.

9. Under Query Editor, select the “Transform” ribbon Tab and select “Use First Row as Header” as shown below:



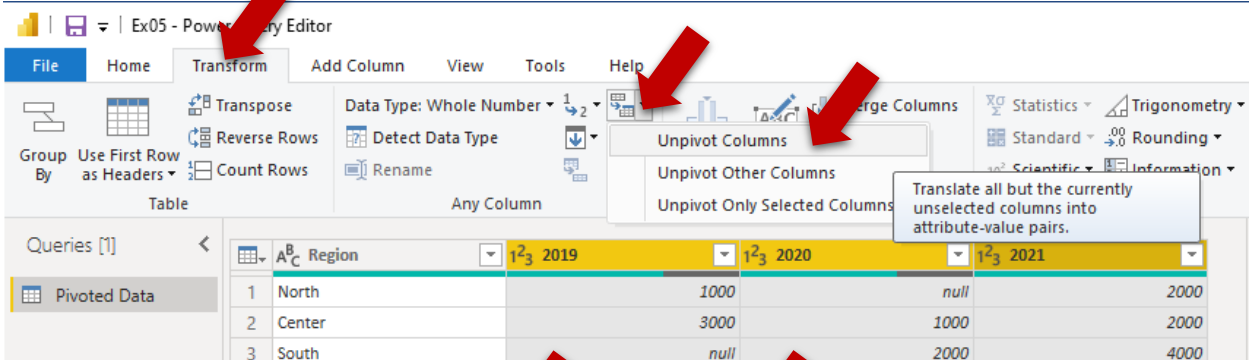
10. You should get the following result:

Region	2019	2020	2021
North	1000	null	2000
Center	3000	1000	2000
South	null	2000	4000

11. Now multi select columns from year 2019 to 2021 (Control-Click the column headers):

Region	2019	2020	2021
North	1000	null	2000
Center	3000	1000	2000
South	null	2000	4000

12. While selecting those columns, select “Unpivot Columns”:



13. You should get the following result:

Region	Attribute	Value
North	2019	1000
North	2021	2000
Center	2019	3000
Center	2020	1000
Center	2021	2000
South	2020	2000
South	2021	4000

The generated columns with name “Attribute” and “Value” are by default. Why there are 7 records are generated?

14. Double clicks the generated column headers to rename them as following:

	Region	Year	Sales
1	North	2019	1000
2	North	2021	2000
3	Center	2019	3000
4	Center	2020	1000
5	Center	2021	2000
6	South	2020	2000
7	South	2021	4000

Part-3: To Pivot Data

15. Continue from the previous steps. At this point we should have a set of Unpivoted data. Now select "Year" column:

	Region	Year	Sales
1	North	2019	1000
2	North	2021	2000
3	Center	2019	3000
4	Center	2020	1000
5	Center	2021	2000
6	South	2020	2000
7	South	2021	4000

16. While the column is selected,

Ex05 - Power Query Editor

File Home Transform Add Column View Tools Help

Group By Use First Row as Headers Reverse Rows Count Rows

Table

Data Type: Text Detect Data Type Rename

Any Column

Split Column Format Merge Columns Extract Parse

Text Column

Statistics Stand

Queries [1]

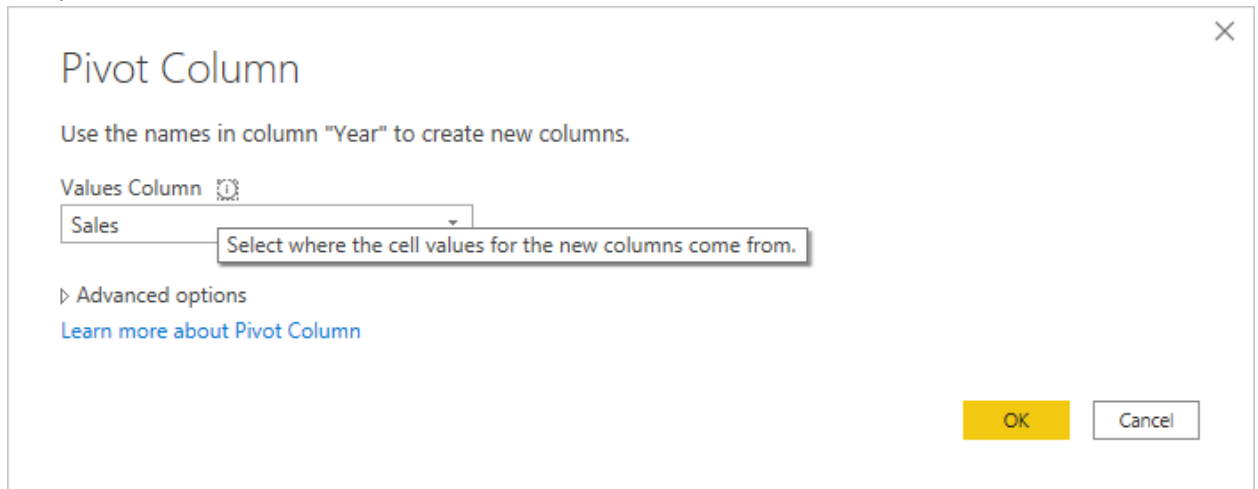
Pivoted Data

**Pivot Column**

Use names in the currently selected column to create new columns. Tables with nested columns are not supported.

	Region	Year	Sales
1	North	2019	1000
2	North	2021	2000
3	Center	2019	3000
4	Center	2020	1000
5	Center	2021	2000
6	South	2020	2000
7	South	2021	4000

17. In the “Pivot Column” dialog box, make sure that the “Sales” is selected and press “OK” to complete:



18. You should get the following result:

	A <sup>B</sup> <sub>C</sub> Region	1 <sup>2</sup> <sub>3</sub> 2019	1 <sup>2</sup> <sub>3</sub> 2021	1 <sup>2</sup> <sub>3</sub> 2020
1	Center	3000	2000	1000
2	North	1000	2000	null
3	South	null	4000	2000

Now the data is in Pivoted form.

19. Close & Apply