

# Example: Report with ComboBoxes and two interdependent vertical DynaRanges

This article provides an example of a dynamic report with two ComboBoxes and two interdependent vertical DynaRanges, first as outer and second as inner DynaRange. In the example are displayed all customers who have nothing ordered in a certain year and in a certain region.

For more information on these and other form elements, see the following articles:

- [Tools - DynaRanges](#)
- [Tools - Form Elements](#)

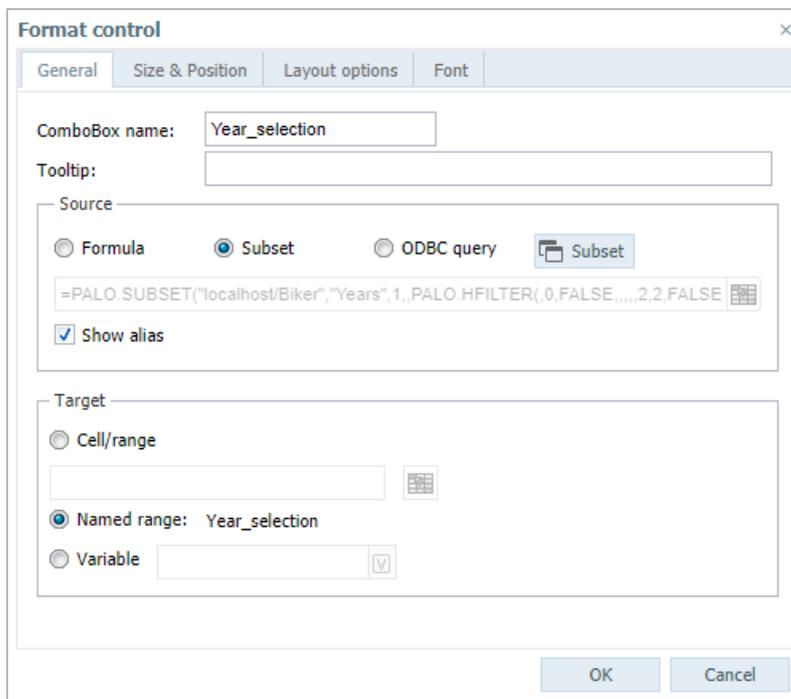
## Creating two ComboBoxes

To create a new report with the first **ComboBox** form element:

1. In **Report Designer**, create the spreadsheet "Nested\_Dynaranges".
2. Double click on Nested\_Dynaranges and stay in cell A1. Enter „Year“ and go to A2.



3. The **Format control** dialog is displayed, prompting you to choose the settings for the ComboBox:



**Note:** there is a [constraint](#) for the data sources formula and ODBC query.

4. Enter "Year\_selection" as the ComboBox name.
5. Click on Subset to open the Subset Editor.
6. On the **General** tab, select the server/database **Biker** and the dimension **Years**.
7. Activate the filter on the **Hierarchy** tab and check **Filter**

**elements by level.** Select **Start level 2** and **End level 2**.

8. Click OK.

9. Close the **Format control** dialog box by clicking OK. The following ComboBox appears:

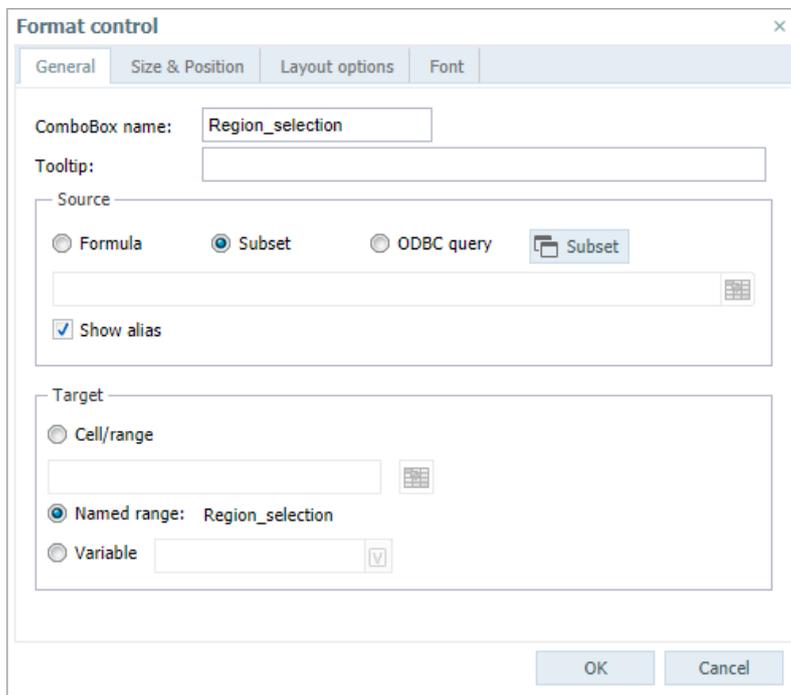
Nested_Dynaranges	
	A
1	Year
2	2013
3	2013
4	2014
5	2015
6	2016
7	2017
8	2018
9	2019
10	2020
11	

10. Go to B1 and enter „Region“.

11. Go to B2. In the **Insert** tab\*, select the **ComboBox** element:



12. The **Format control** dialog is displayed, prompting you to choose the settings for the ComboBox:



13. Enter "Region\_selection" as the ComboBox name.
14. Click on Subset to open the Subset Editor.
15. On the **General** tab, select the server/database **Biker** and the dimension **Customers**.
16. Activate the filter on the **Hierarchy** tab and check **Filter elements by level**.  
Select **Start level 2** and **End level 2**.
17. Click OK.
18. Close the **Format control** dialog box by clicking OK. The following ComboBox appears:

Nested_Dynaranges				
	A		B	
1	Year		Region	
2	2013	▼	East	▼
3			East	
4			North	
5			South	
6			West	
7				

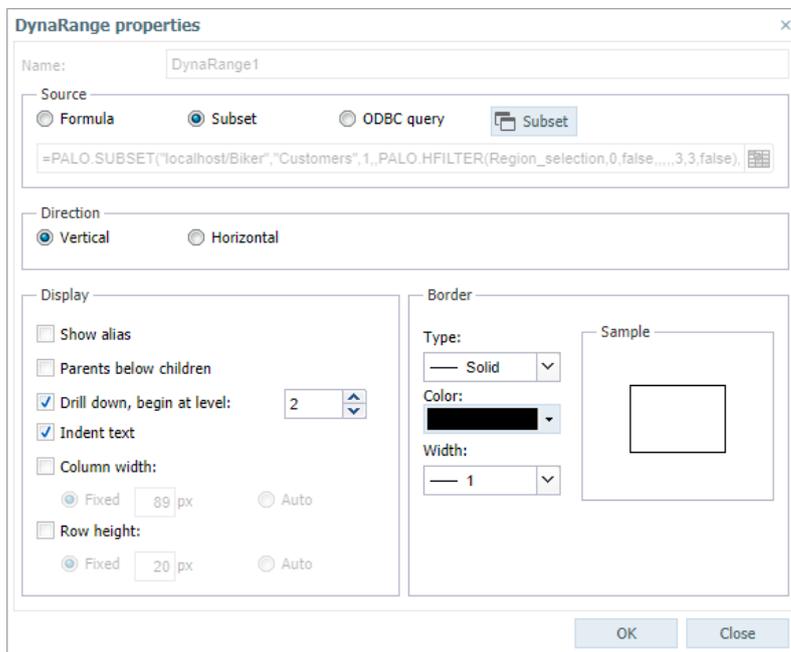
## Creating two nested interdependent vertical DynaRanges

To create the outer DynaRange, follow these steps:

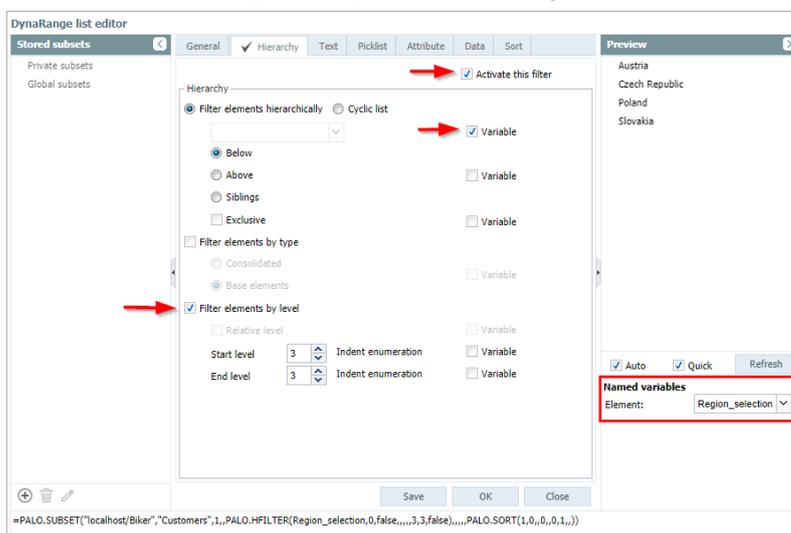
1. Highlight the cells D3:G5. In the **Insert** tab, select the **Vertical DynaRange** icon:



You receive:



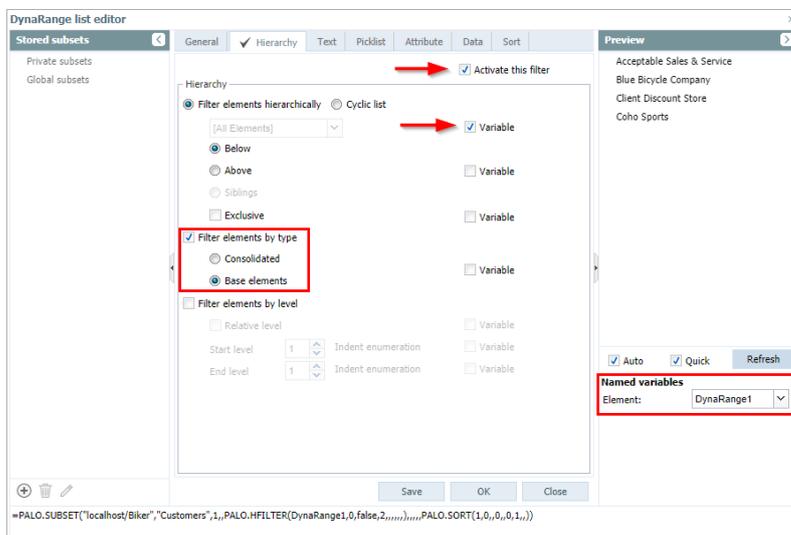
2. As source, use a subset of the dimension **Customers** and select the following settings in **Hierarchy** tab:



3. Select **Region\_selection** as variable.

To create the inner DynaRange, follow these steps:

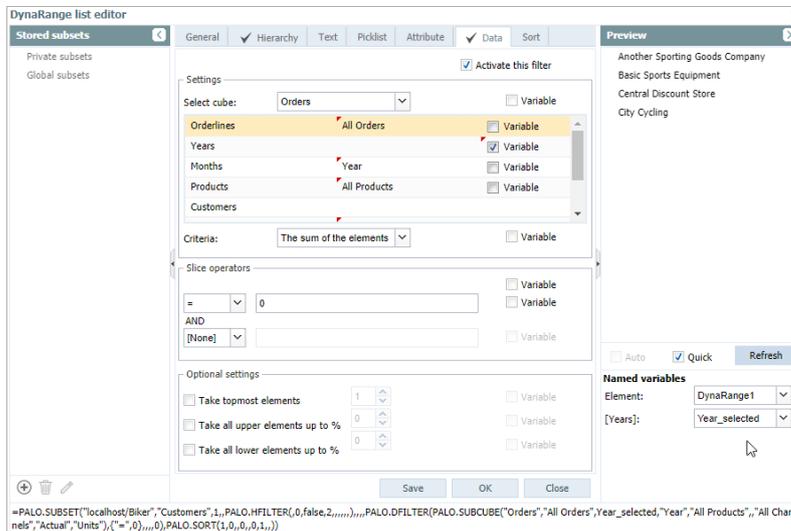
1. Highlight the cells E4:F4. In the **Insert** tab, select the **Vertical DynaRange**.
2. As source, use a subset of the dimension **Customers** and select the following settings in **Hierarchy** tab:



3. Select **Dynarange1** as variable.

**Note:** When referring from the formula of the dependent DynaRange to its “parent”, you have to use the parent’s name (for example, “DynaRange1”), not a cell reference. Cell references in DynaRange source formulas are static, meaning they are not rewritten as the DynaRange expands.

4. To display only the customers with 0 orders we select the **Data** tab and set the following settings:



Select cube: Orders	Months: Year	Channels: All Channels
Orderlines: All Orders	Products: All Products	Versions: Actual
Years: Variable „Year_selected“	Customers: nothing (here will be displayed the dimension elements which match the criteria)	Measures: Units

We close the open dialogs with „OK“ and receive the following entries in the spreadsheet:

Nested_Dynaranges								
	A	B	C	D	E	F	G	H
1	Year	Region						
2	2013	East						
3				{Customers}				
4					{Customers}			
5								
6								

Add a PALO.DATA function in F4:

1. Select **Query > Paste Data Function...**
2. In the dialog box, select the server/database **Biker** and the cube **Orders**. Then check **Guess Arguments**.  
Click **Paste**.

3. The guessed formula is:  
`=PALO.DATAC("localhost/Biker","Orders","All Orders",Year_selected,"Year","All Products",Region_selected,"All Channels","Variance","Units")`

Two guessed arguments we should correct:  
„Region\_selected“ and „Variance“.

The correct formula has to use E4 (here is displayed the base element of the dimension „Customers“) instead of „Region\_selected“ and „Actual“ instead of „Variance“:  
`=PALO.DATAC("localhost/Biker","Orders","All Orders",Year_selected,"Year","All Products",E4,"All Channels","Actual","Units")`

On the **Design** tab, click the **Designer preview** icon  to see the result:

Nested_Dynarange							
	A	B	C	D	E	F	G
1	Year	Region					
2	2017	North					
3				Denmark			
4				Flawless Bike Shop	0.00		
5				Leisure Activities	0.00		
6				Outdoor Sports Supply	0.00		
7				Suburban Cycle Shop	0.00		
8							
9				Finland			
10				Custom Accessories Company	0.00		
11				Work and Play Association	0.00		
12							
13				Norway			
14				Finer Mart	0.00		
15							
16				Sweden			
17				Active Life Toys	0.00		
18							
19							

For performance reasons, a maximum of four elements will appear for each dimension in **Designer preview**.

To see a full view of all the data close **Designer preview** and click the **Open user mode** icon  :

Nested_Dynarange	
Year	Region
2017	North
Denmark	
Flawless Bike Shop	0.00
Leisure Activities	0.00
Outdoor Sports Supply	0.00
Suburban Cycle Shop	0.00
Unsurpassed Bikes	0.00
Vale Riding Supplies	0.00
Finland	
Custom Accessories Company	0.00
Work and Play Association	0.00
Norway	
Finer Mart	0.00
Sweden	
Active Life Toys	0.00



Now you can easily change „Year“ and „Region“ to see customers with 0 orders for certain years and certain regions.

\*In this example, we use the default, Simple Ribbon toolbar.

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