

Design-report-in-power-bi-desktop, Part 3

THE ESTIMATED TIME TO COMPLETE THE LAB IS **90** MINUTES

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Advanced **Error! Bookmark not defined.**

 Analytics pane **Error! Bookmark not defined.**

 New quick measure **Error! Bookmark not defined.**

 Grouping o Binning **Error! Bookmark not defined.**

 Bookmark **Error! Bookmark not defined.**

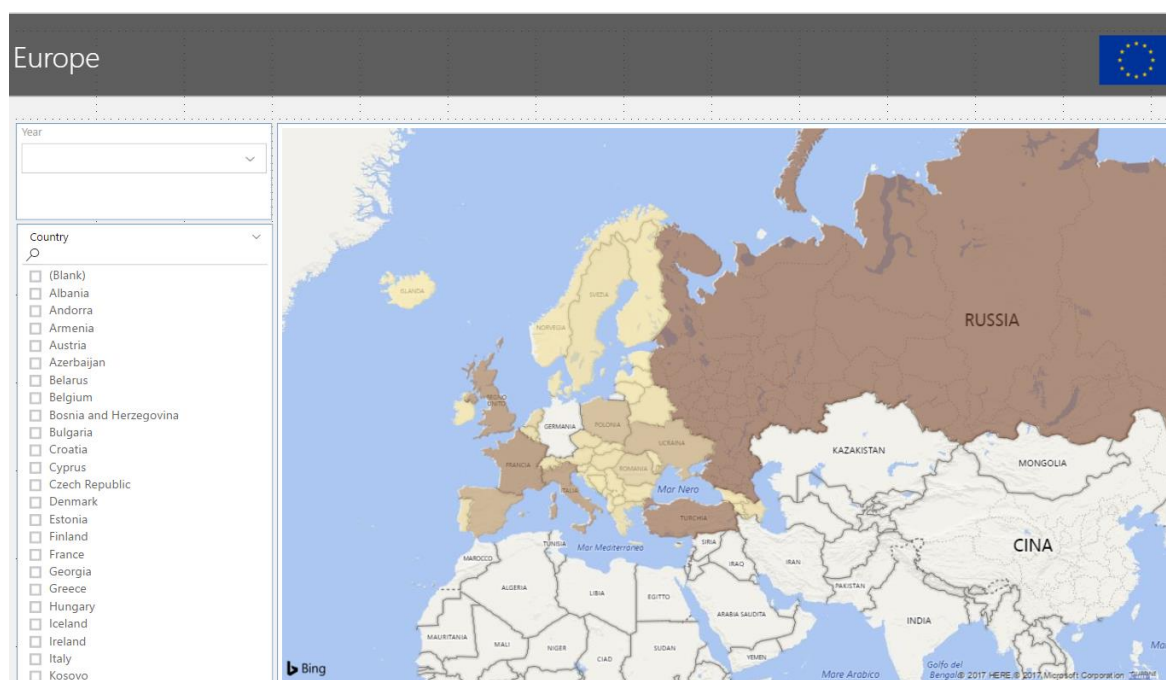
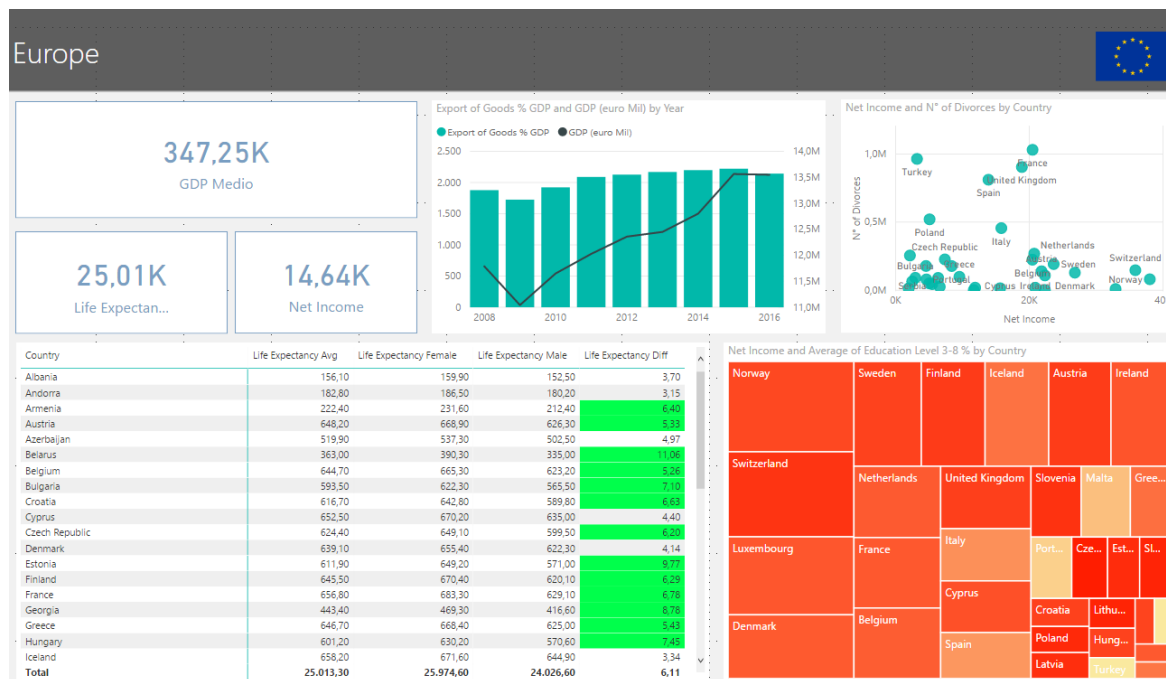


Overview

In questo hands-on avrete l'opportunità di lavorare con Power BI.

Per questo scopo analizzeremo i dati demografici ed economici degli stati dell'unione europea. Tali dati sono di dominio pubblico al seguente link <http://ec.europa.eu/eurostat/data/database>, verranno caricati in Power BI attraverso dei file Excel.

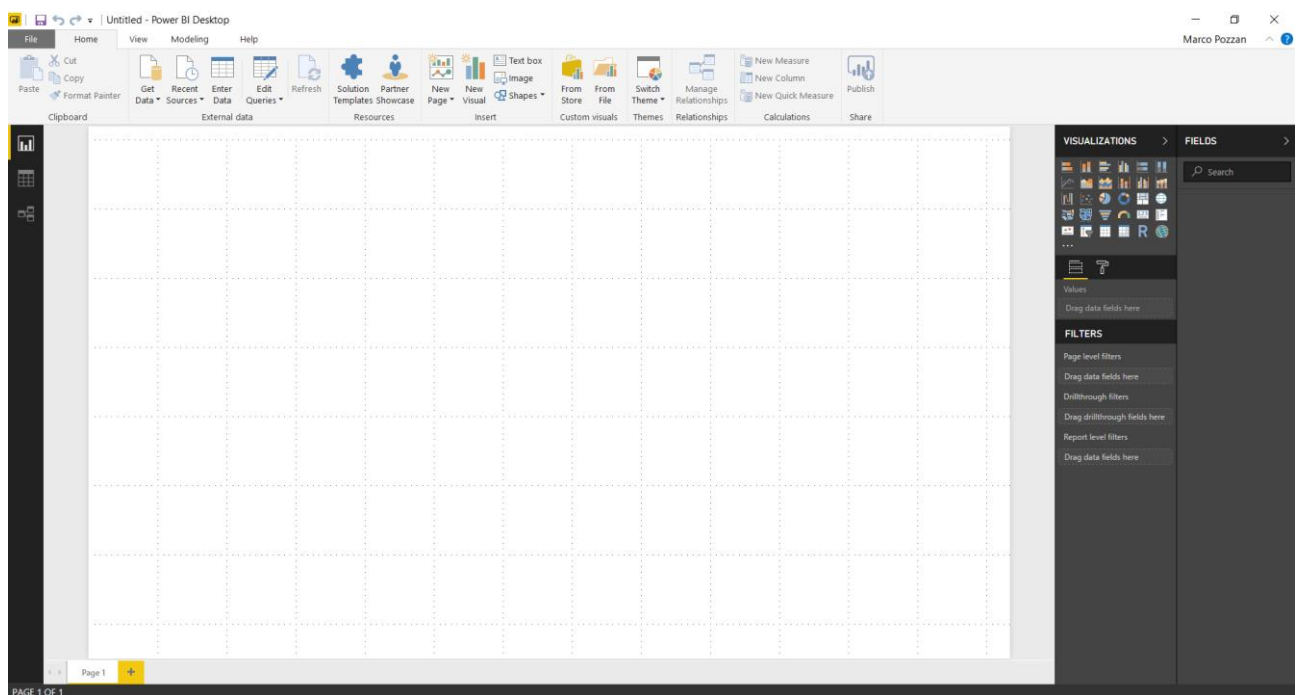
Il risultato sarà ottenere una dashboard con due fogli.



Power BI

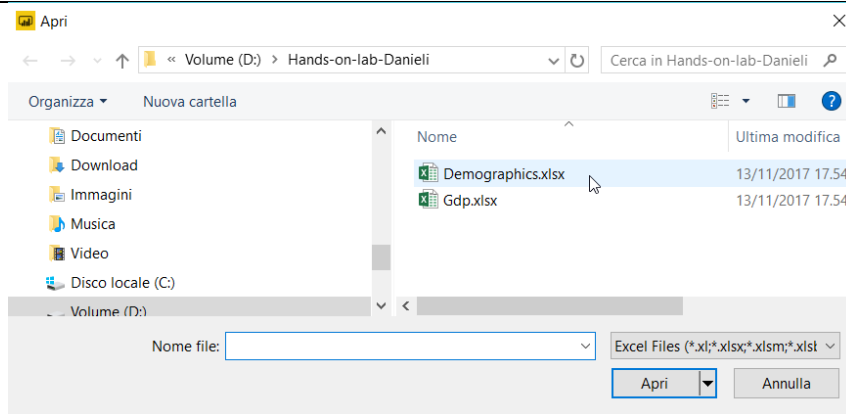
Scaricare dall'indirizzo <https://www.microsoft.com/en-us/download/details.aspx?id=45331> l'ultima versione di Power BI Desktop ed installare l'applicazione.

Successivamente aprire l'applicazione e salvare subito il progetto con il nome Hands + il numero della postazione nella cartella fornita con all'interno i vari file per completare l'esercitazione.



Data manipulation

Azione	Screenshot
Aggiungere i due file excel. Possiamo caricare solo un file alla volta. Quindi incominciamo con scegliere il file Demographincs.xlsx	A screenshot of the Power BI Desktop 'Get Data' dropdown menu. The menu is open, showing 'Most Common' options: 'Excel' (with a green Excel icon) and 'Power BI service' (with a Power BI icon). The 'Excel' option is highlighted by the mouse cursor. The background shows the Power BI Desktop interface with the ribbon and the Visualizations pane.



Selezionare il tab “demographics” del file e premere il tasto “edit” per applicare le modifiche al file prima di caricarlo nel modello.

Navigator

Display Options ▾

Demographics.xlsx [1]

Demographics

Demographics

Country	Year
Albania	2008
Albania	2009
Albania	2011
Albania	2013
Albania	2014

Armenia	2015	3010598	1439148	15714
Armenia	2016	2998577	1429042	15695

Load Edit Cancel

Selezionare l'icona “Choose Columns” e Deselezionare le due colonne Population of Man/Woman

Untitled - Query Editor

File Home Transform Add Column View Help

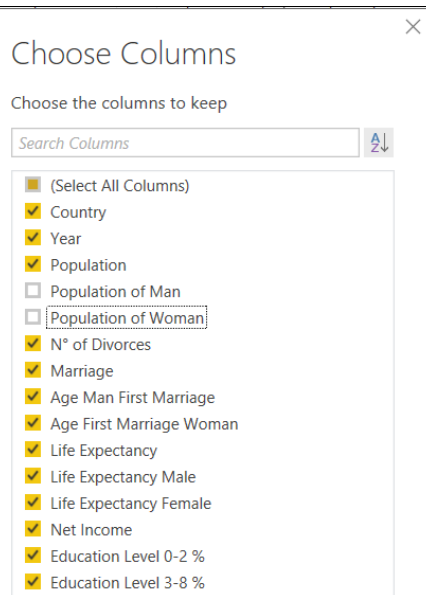
Close & Apply New Source Recent Sources Enter Data Data source settings Manage Parameters Refresh Preview Properties Advanced Editor Manage Choose Columns

Queries [1]

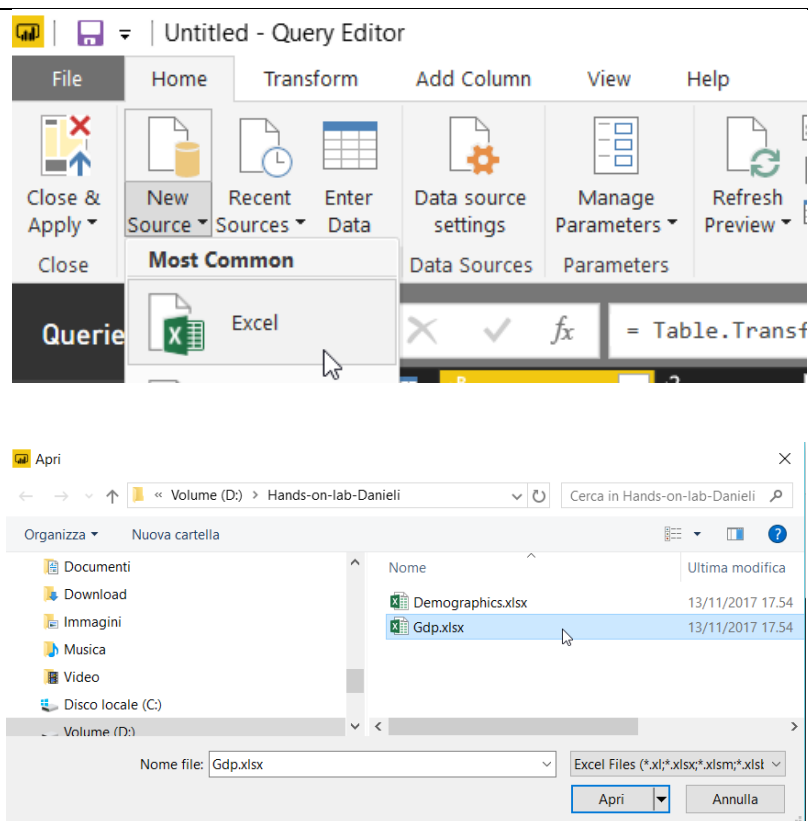
Demographics

= Table.TransformColumnTypes(#"Promoted", {{"Country", type text}, {"Year", type text}, {"Population", type text}})

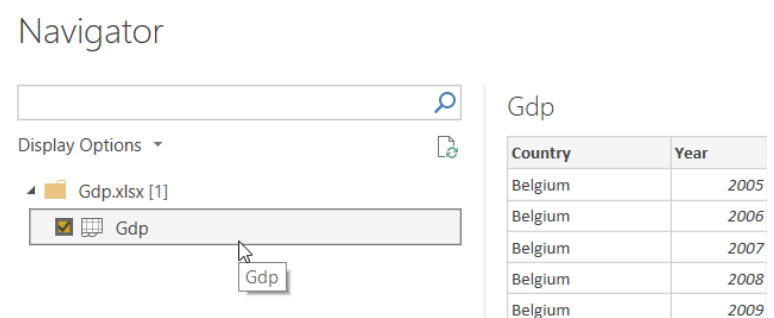
Country	Year	Population
1 Albania	2008	3170050



Ora ci si trova nell'ambiente di Power Query e senza uscire cliccare sull'icona "New Source" e aggiungere il file excel rimanente. Quindi carichiamo il file Gdp.xlsx



Selezionare il tab "Gdp" del file e premere il tasto "Ok" per applicare le modifiche al file prima di caricarlo nel modello.

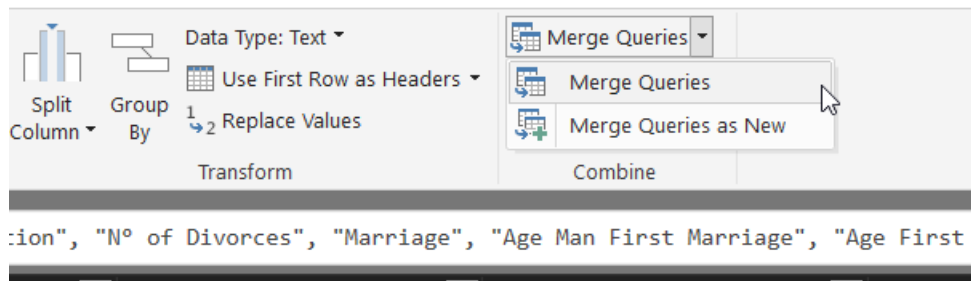
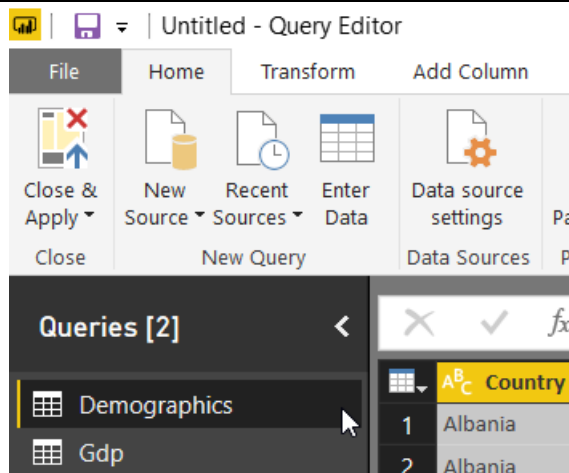


Bulgaria	2007	52,4	32449,1
Bulgaria	2008	52,5	37200,1
Bulgaria	2009	42,3	37317,7
Bulgaria	2010	50,2	38230,5
Bulgaria	2011	59,1	41292
Bulgaria	2012	60,8	41947,2
Bulgaria	2013	64,7	42011,5
Bulgaria	2014	65	42762,2
Bulgaria	2015	64,1	45286,5
Bulgaria	2016	64	48128,6

OK

Cancel

Creare una relazione
tra le due sorgenti
dati caricate.
Selezionare la query
Demographics e
cliccare sull'opzione
"Merge query" in
alto a destra



Selezionare “Year” e “Country” da entrambi i data source. Attraverso il tasto CTRL premuto e l'utilizzo del mouse si selezionano i cambi da entrambe le tabelle in modo tale che l'ordine dei campi sia lo stesso. Infine scegliere il tipo di associazione che deve essere “Full Outer”.

×

Merge

Select a table and matching columns to create a merged table.

Demographics

Country	Year	Population	N° of Divorces	Marriage	Age Man First Marriage	Age First Marriage Woman
Albania	2008	3170050	3610	21290	null	
Albania	2009	3184701	null	null	null	
Albania	2011	2831741	4807	25303	null	
Albania	2013	2898782	null	23820	null	
Albania	2014	2895947	4240	23769	null	

Gdp

Country	Year	Export of Goods % GDP	GDP (euro Mil)
Belgium	2005	73,5	null
Belgium	2006	75,7	null
Belgium	2007	77,5	344712,5
Belgium	2008	79,7	354065,9
Belgium	2009	69,3	348781,1

Join Kind

Full Outer (all rows from both)

ⓘ

The selection has matched 318 out of the first 458 rows.

OK

Cancel

Nella tabella “demographics” compare una colonna Gdp con due frecce di espansione. Scegliere tutti i campi tranne “Country” e “Year”. Deselezionare la spunta “use originale column name as prefix”

el 0-2 %

1.2 Education Level 3-8 %

Gdp

Search Columns to Expand

Expand

Aggregate

(Select All Columns)

Country

Year

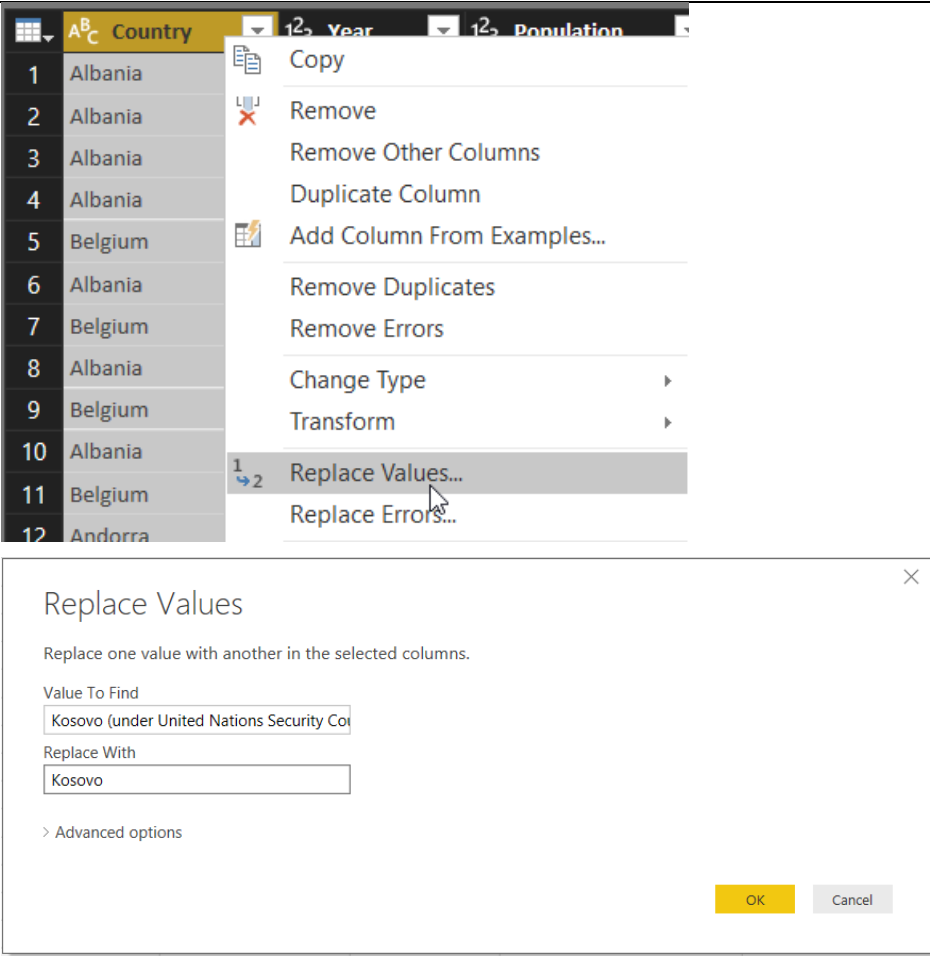
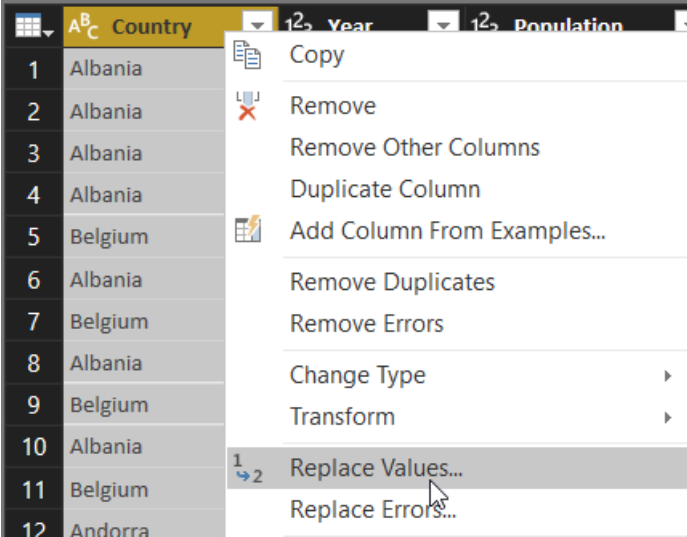
Export of Goods % GDP

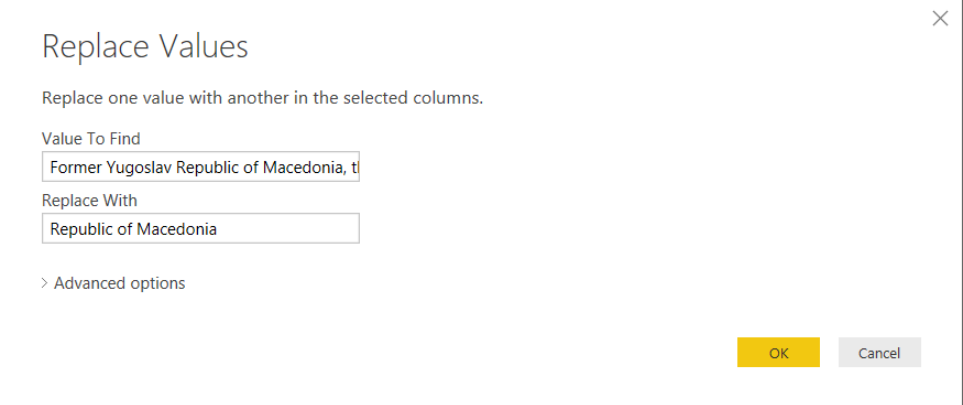
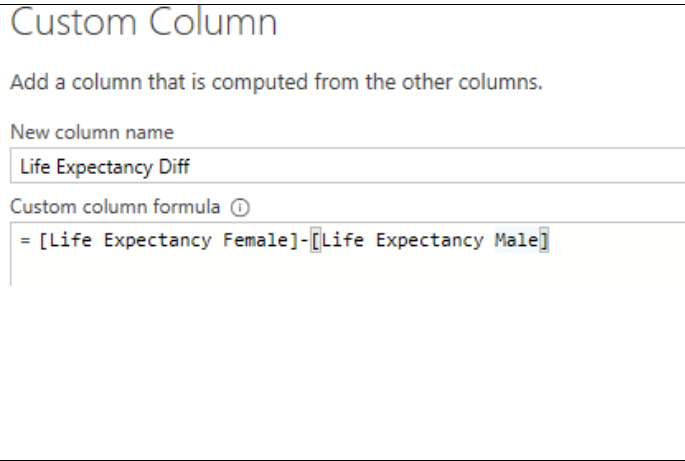
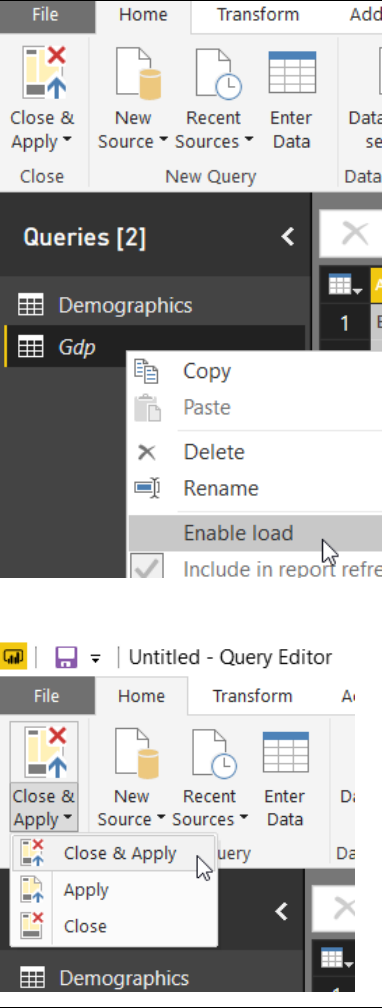
GDP (euro Mil)

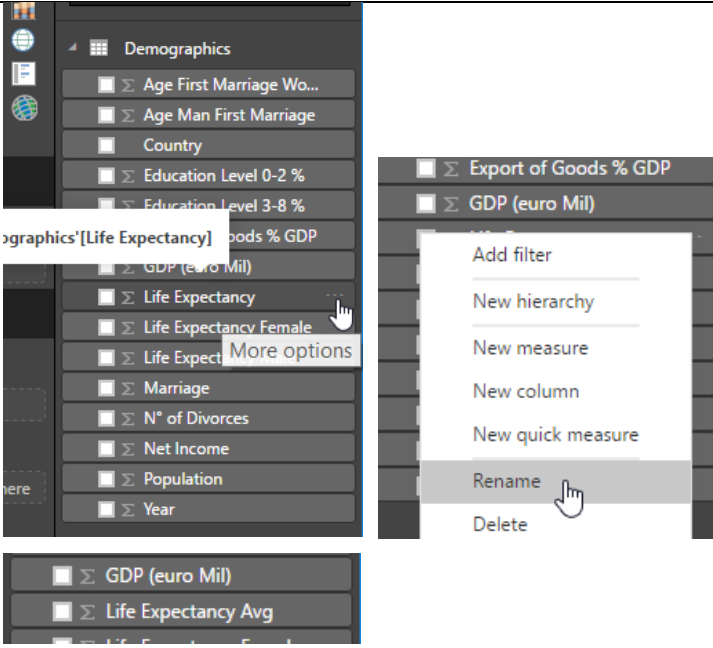
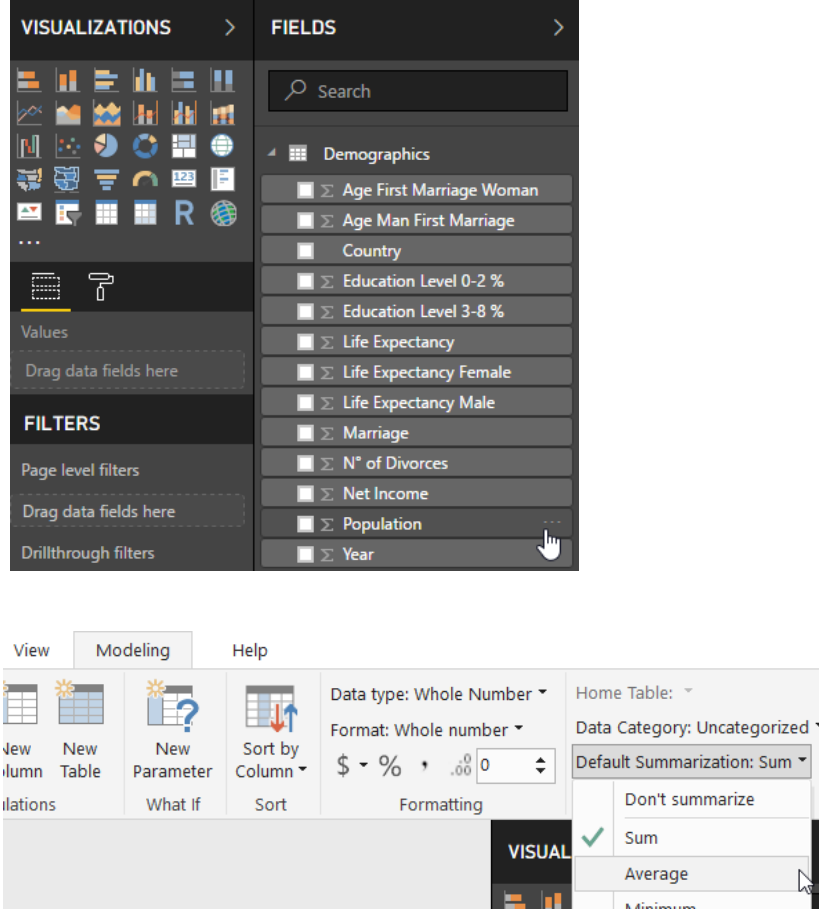
Use original column name as prefix

OK

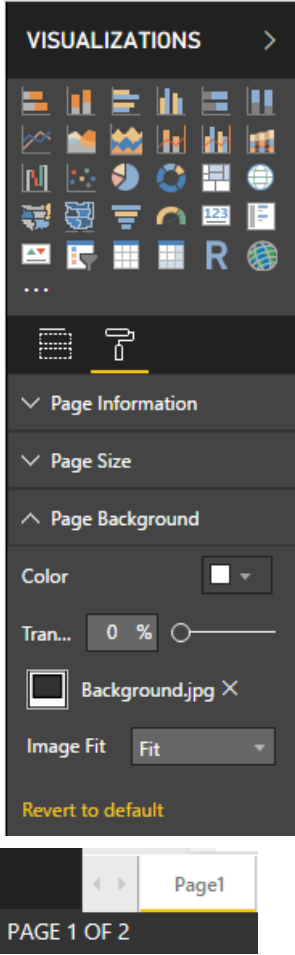
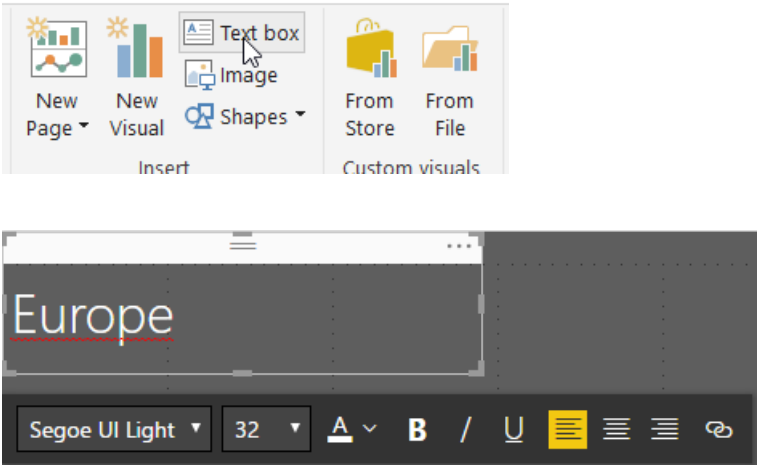
Cancel

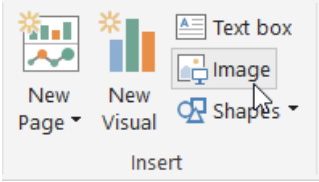

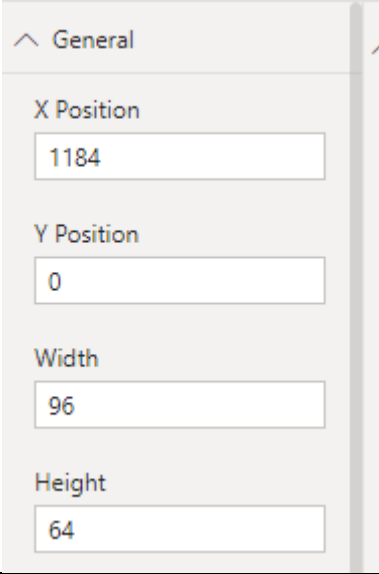
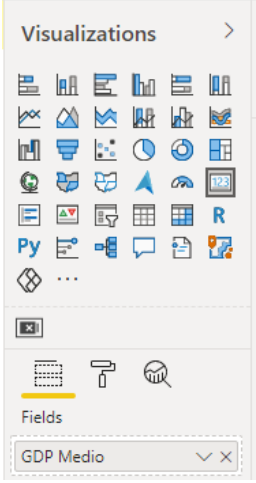
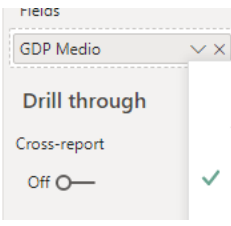
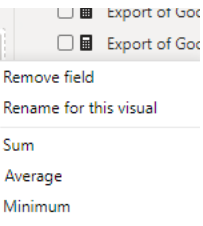
<p>Cliccare con il tasto destro sulla testata della colonna “Country” e scegliere la voce “Replace Values”</p> <p>Rimpiazzare il valore di “Kosovo (under United Nations Security Council Resolution 1244/99)” con “Kosovo”</p>	 <p>The screenshot shows a data table with columns: Country, Year, and Population. The 'Country' column header is right-clicked, opening a context menu. The 'Replace Values...' option is highlighted. Below the table, a 'Replace Values' dialog box is open, showing the 'Value To Find' as 'Kosovo (under United Nations Security Council Resolution 1244/99)' and the 'Replace With' as 'Kosovo'. The dialog has 'OK' and 'Cancel' buttons.</p>
<p>Cliccare con il tasto destro sulla testata della colonna “Country” e scegliere la voce “Replace Values”</p>	 <p>This screenshot shows the same data table as above, but only the context menu is visible, with 'Replace Values...' highlighted.</p>

<p>Rimpiazzare il valore di “Former Yugoslav Republic of Macedonia, the” con “Republic of Macedonia”</p>	
<p>Creare una colonna custom per la Life Expectancy Diff che è la differenza tra Life Expectancy Female e Life Expectancy Male. Assicurarsi che il tipo di colonna sia di tipo decimal.</p>	
<p>Cliccare sulla query della “Gdp” e selezionare “Enabled load” per non caricare le query nel modello.</p> <p>Selezionare l'icona “Close & Apply” che permette di applicare le trasformazioni impostate e caricare i dati nel modello. In automatico ci troveremo nella schermata iniziale di Power BI Desktop da dove procederemo ad inserire le misure.</p>	

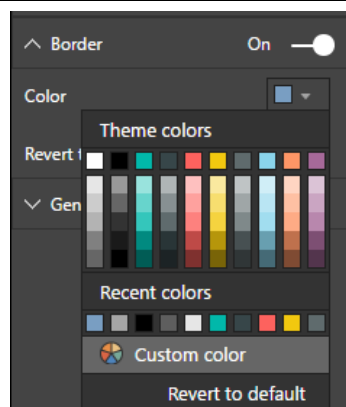
<p>Rinominare il campo “Life Expectancy” in “Life Expectancy Avg” cliccando sui tre punti accanto al nome originale e sezionando “Rename” e scrivendo il nuovo nome del campo.</p>	 <p>The screenshot shows the 'Fields' pane in Power BI. The 'Demographics' category is expanded, and 'Life Expectancy' is selected. A context menu is open, showing options like 'Add filter', 'New hierarchy', 'New measure', 'New column', 'New quick measure', 'Rename', and 'Delete'. The 'Rename' option is highlighted with a mouse cursor. Below the Fields pane, a snippet of the visualization shows 'GDP (euro Mil)' and 'Life Expectancy Avg'.</p>
<p>Cambiare la funzione di aggregazione mettendo invece che la “sum” la “average” per le seguenti misure:</p> <ul style="list-style-type: none"> -Population -Life Expectancy Avg -Life Expectancy Female -Life Expectancy Male -Life Expectancy Diff -Net Income 	 <p>The screenshot shows the 'Fields' pane with 'Population' selected. Below it, the 'Default Summarization' dropdown menu is open, showing options: 'Don't summarize', 'Sum', and 'Average'. The 'Average' option is highlighted with a mouse cursor. The 'Modeling' tab is active in the ribbon, showing options like 'New Column', 'New Table', 'New Parameter', 'Sort by Column', and 'Sort'.</p>

Data visualization : Europe

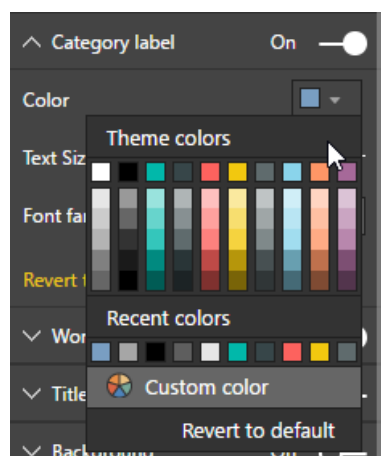
Azione	Screenshot
<p>Caricare un'immagine di sfondo per caricare la barra del titolo</p> <p>Background.jpg e impostare a Fit la proprietà "Image Fit"</p> <p>Sotto rinominare la tab "Page1" con "Europe"</p>	
<p>Inserire una TextBox in cui scriviamo "Europe" con carattere 32 di colore bianco.</p> <p>Nelle impostazioni generali inserire 184 come "width" e "height" 56 e come "Xposition" 0 e "Yposition" 0</p>	

<p>Inserire un'immagine. Es. europe-flag.png</p> <p>Nelle impostazioni generali inserire 96 come "width" e "height" 64 e come "Xposition" 1184 e "Yposition" 0</p>	  
<p>Inserire un chart di tipo "Card" e selezionare il campo GDP (euro Mil) e cambiare in media la funzione di aggregazione. Rinominare con Gdp Medio che finirà sul Fields.</p>	  

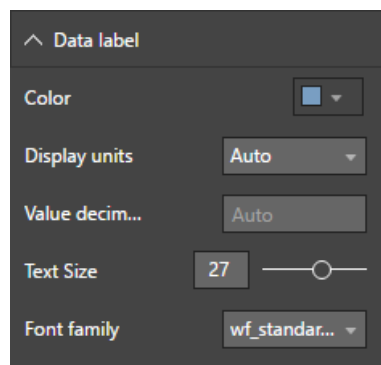
Nella parte del colore del “border” inserire il seguente colore 799EC2 su “Custom color”



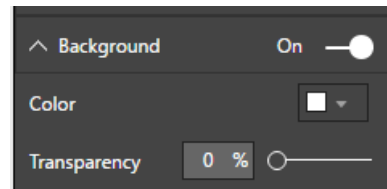
nella parte del colore del “category label” inserire il seguente colore 799EC2



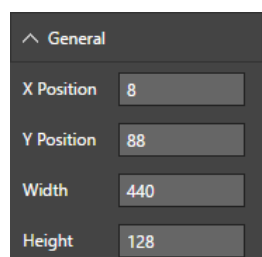
Nella parte del colore del “data label” inserire il seguente colore 799EC2

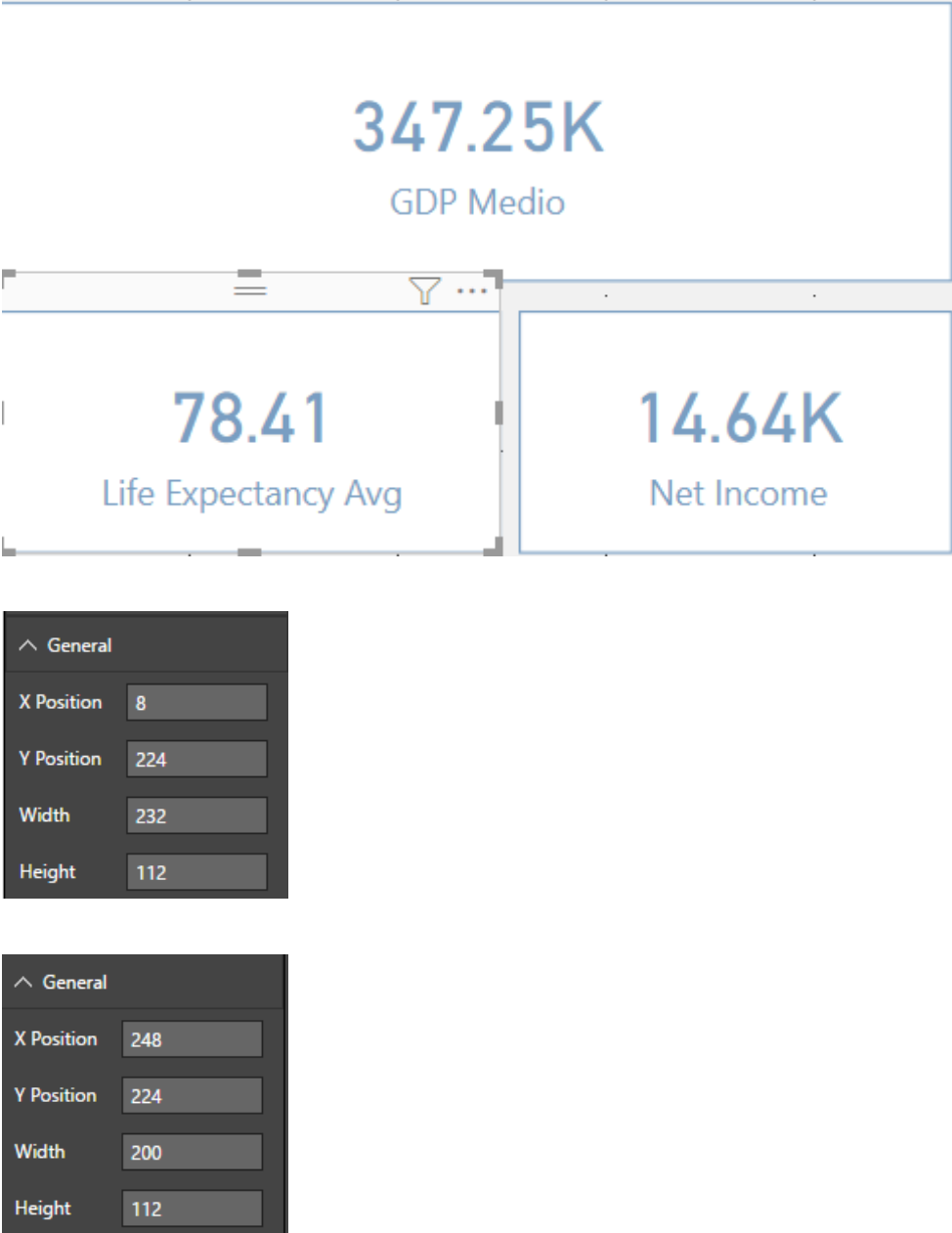
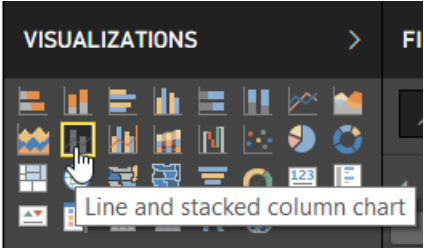


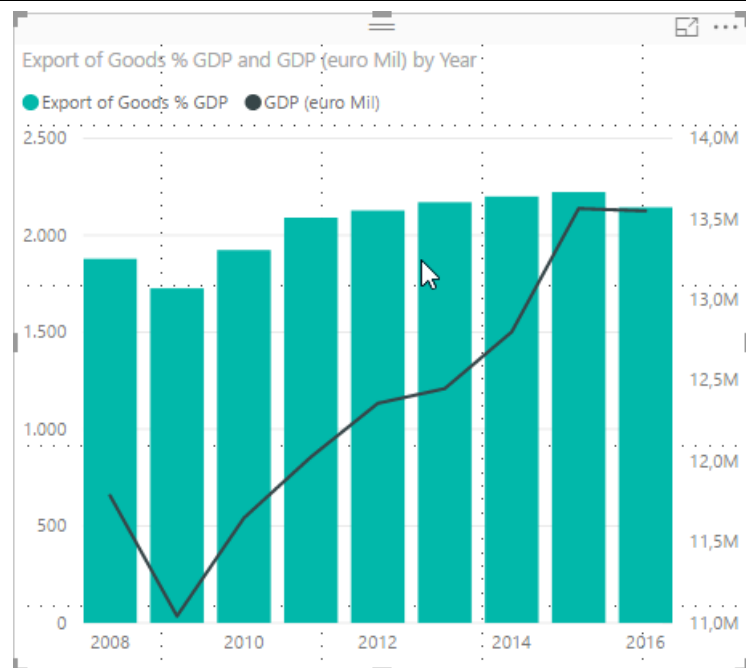
E selezionare come background il bianco con livello di trasparenza 0%



Seguire queste impostazioni per il posizionamento del riquadro



<p>Ripetere la stessa operazione per Life Expectancy Avg e Net Income e disporli nel seguente modo</p> <div> <div> Posizione espectancy </div> <div> Life </div> </div> <div> Posizione Net Income </div>	 <p>The image shows a dashboard layout with three KPI cards. The top card is 'GDP Medio' with a value of 347.25K. Below it are two cards: 'Life Expectancy Avg' with a value of 78.41 and 'Net Income' with a value of 14.64K. Below the cards are two configuration panels for the 'Life Expectancy Avg' and 'Net Income' cards, showing their General properties like X Position, Y Position, Width, and Height.</p>
<p>Inserire un grafico combinato con Year, GDP (euro Mil) e Export of Goods %.</p>	 <p>The image shows a screenshot of the Power BI Visualizations pane. The 'Line and stacked column chart' is selected, and a tooltip is visible over it.</p>



Shared axis

Year

Column series

Drag data fields here

Column values

Export of Goods % GDP

Line values

GDP (euro Mil)

Tooltips

Drag data fields here

Background On

Color

Transparency 0 %

Generale

Reattivo

Disattiva

Posizione X

464

Posizione Y

96

Larghezza

432

Altezza

256

Nella parte di formatting selezionare come background il bianco con livello di trasparenza 0%

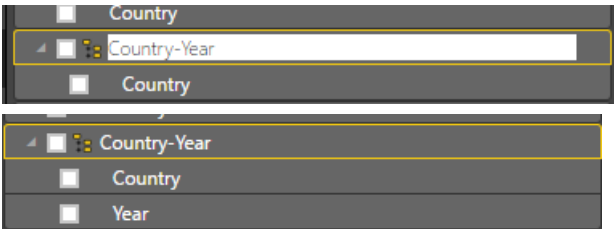
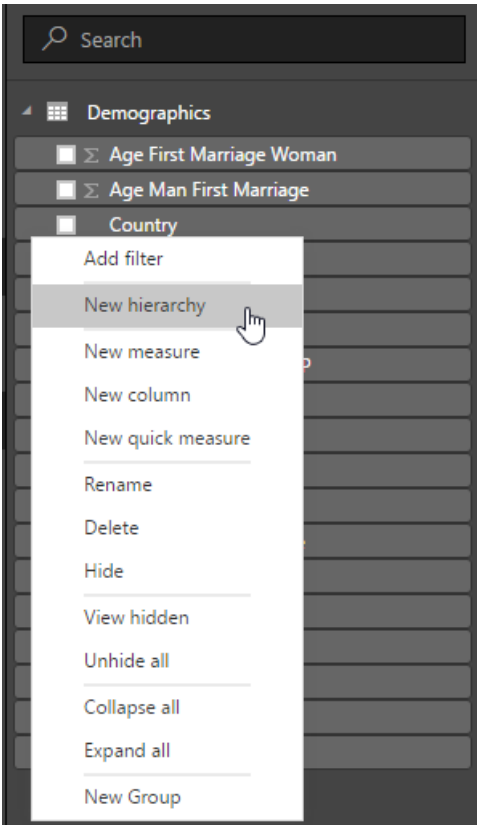
Seguire queste impostazioni per il posizionamento del riquadro

Creare una dimensione di drill.

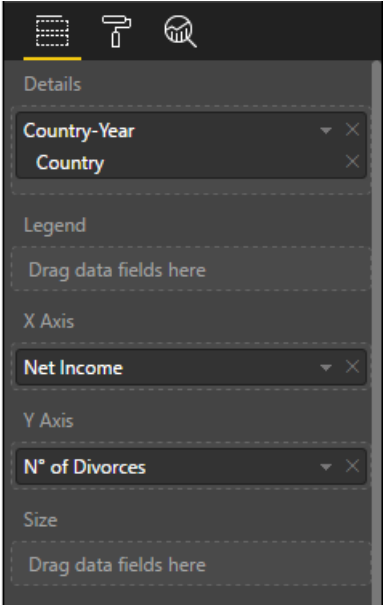
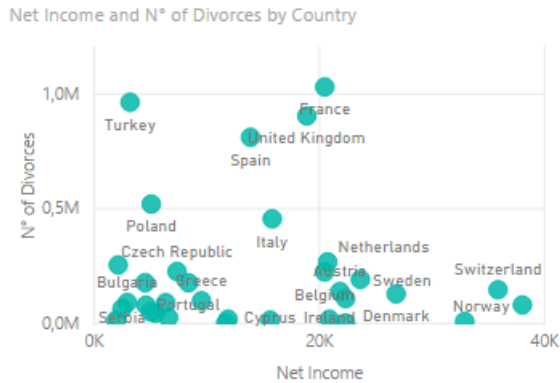
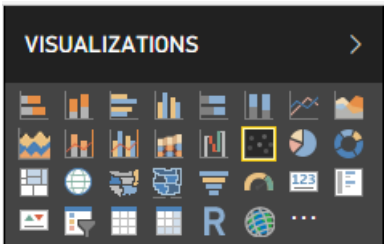
Country-Year

Per fare questo cliccare con il tasto destro sul campo “Country” e scegliere New Hierarchy

Rinominiamo facendo doppio click sul nome della gerarchia in “Country-Year”
Trascinare il campo “year” sopra la gerarchia appena creata



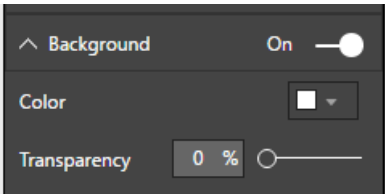
Inserire un grafico a dispersione con la dimensione di drill appena creata, l’avg del “N° of Divorce” e il net income



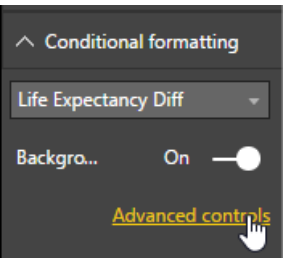
Nella parte di formatting

<p>selezionare come background il bianco con livello di trasparenza 0% E abilitiamo il “category label”</p>	<div><div><div>BackgroundOn</div><div>Color</div><div>Transparency0 %</div></div><div>Category labelsOn</div></div> <div><div>General</div><div>Data V...3500</div><div>Responsi...Off</div><div>X Position912</div><div>Y Position79</div><div>Width368</div><div>Height257</div></div>																																																																																																				
<p>Inserire una tabella con la dimensione country, life expectancy Female, life expectancy Male e la Life expectancy Diff appena creata. La tabella deve essere posizionata con coordinate Posizione X = 8 ,Posizione Y = 360, Larghezza = 760 e Altezza = 360</p>	<div><div><div><div>Tabella</div></div></div><div><table><tr><th>Country</th><th>Media di Life expectancy Avg</th><th>Media di Life Expectancy Female</th><th>Media di Life Expectancy Male</th><th>Media di Life Expectancy Diff</th></tr><tr><td>Albania</td><td>78.05</td><td>79.95</td><td>76.25</td><td>3.70</td></tr><tr><td>Andorra</td><td>91.40</td><td>93.25</td><td>90.10</td><td>3.15</td></tr><tr><td>Armenia</td><td>74.13</td><td>77.20</td><td>70.80</td><td>6.40</td></tr><tr><td>Austria</td><td>81.03</td><td>83.61</td><td>78.29</td><td>5.33</td></tr><tr><td>Azerbaijan</td><td>74.27</td><td>76.76</td><td>71.79</td><td>4.97</td></tr><tr><td>Belarus</td><td>72.60</td><td>78.06</td><td>67.00</td><td>11.06</td></tr><tr><td>Belgium</td><td>80.59</td><td>83.16</td><td>77.90</td><td>5.26</td></tr><tr><td>Bulgaria</td><td>74.19</td><td>77.79</td><td>70.69</td><td>7.10</td></tr><tr><td>Croatia</td><td>77.09</td><td>80.35</td><td>73.73</td><td>6.63</td></tr><tr><td>Cyprus</td><td>81.56</td><td>83.78</td><td>79.38</td><td>4.40</td></tr><tr><td>Czech Republic</td><td>78.05</td><td>81.14</td><td>74.94</td><td>6.20</td></tr><tr><td>Denmark</td><td>79.89</td><td>81.93</td><td>77.79</td><td>4.14</td></tr><tr><td>Estonia</td><td>76.49</td><td>81.15</td><td>71.38</td><td>9.77</td></tr><tr><td>Finland</td><td>80.69</td><td>83.80</td><td>77.51</td><td>6.29</td></tr><tr><td>France</td><td>82.10</td><td>85.41</td><td>78.64</td><td>6.78</td></tr><tr><td>Georgia</td><td>73.90</td><td>78.22</td><td>69.43</td><td>8.78</td></tr><tr><td>Greece</td><td>80.84</td><td>83.55</td><td>78.13</td><td>5.43</td></tr><tr><td>Iceland</td><td>75.15</td><td>78.78</td><td>71.93</td><td>7.85</td></tr><tr><td>Totale</td><td>78.41</td><td>81.43</td><td>75.32</td><td>6.11</td></tr></table></div><div><div>Rows</div><div>Country</div><div>Columns</div><div>Drag data fields here</div><div>Values</div><div>Life Expectancy Avg</div><div>Life Expectancy Female</div><div>Life Expectancy Male</div><div>Life Expectancy Diff</div><div>FILTERS</div></div></div>	Country	Media di Life expectancy Avg	Media di Life Expectancy Female	Media di Life Expectancy Male	Media di Life Expectancy Diff	Albania	78.05	79.95	76.25	3.70	Andorra	91.40	93.25	90.10	3.15	Armenia	74.13	77.20	70.80	6.40	Austria	81.03	83.61	78.29	5.33	Azerbaijan	74.27	76.76	71.79	4.97	Belarus	72.60	78.06	67.00	11.06	Belgium	80.59	83.16	77.90	5.26	Bulgaria	74.19	77.79	70.69	7.10	Croatia	77.09	80.35	73.73	6.63	Cyprus	81.56	83.78	79.38	4.40	Czech Republic	78.05	81.14	74.94	6.20	Denmark	79.89	81.93	77.79	4.14	Estonia	76.49	81.15	71.38	9.77	Finland	80.69	83.80	77.51	6.29	France	82.10	85.41	78.64	6.78	Georgia	73.90	78.22	69.43	8.78	Greece	80.84	83.55	78.13	5.43	Iceland	75.15	78.78	71.93	7.85	Totale	78.41	81.43	75.32	6.11
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<p>Nella parte di formatting selezionare come background il bianco</p>																																																																																																					

con livello di trasparenza 0%



Entrare nelle proprietà della Life Expectancy Diff e modificare l'espressione del colore di sfondo.



Es.
Se la avg([Life Expectancy Female])-avg([Life Expectancy Male]) è maggiore di >5 e minore di 100 allora metti Green

Colore di sfondo - *Minimo di Life Expectancy Diff*

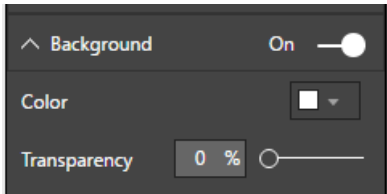
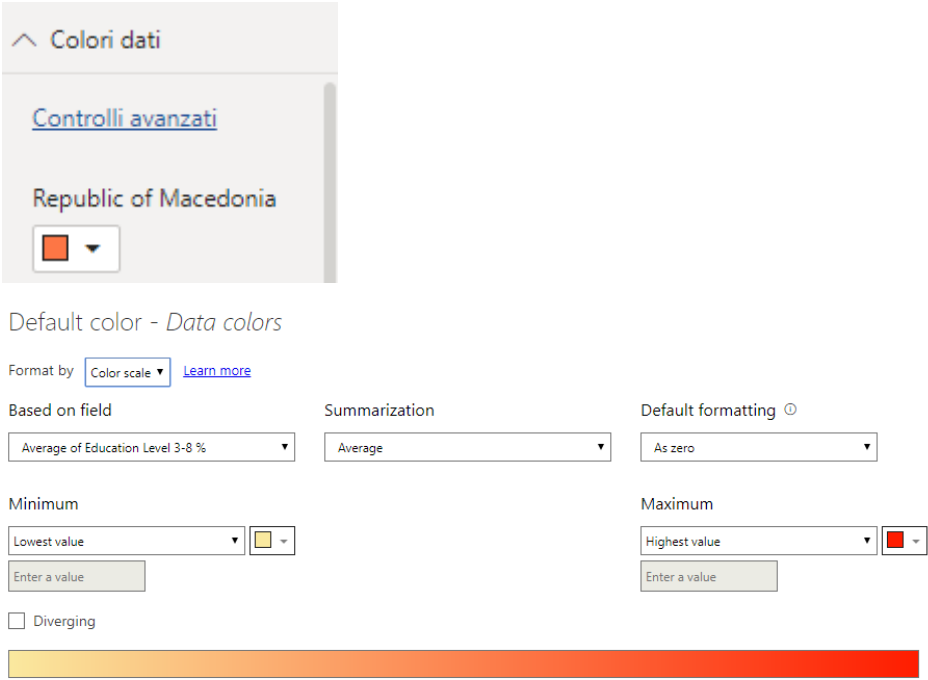
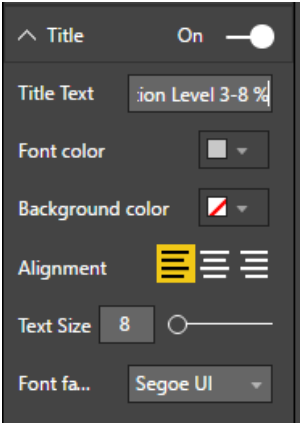
Formatta per: Regole Applica a: Valori e totali

In base al campo: Media di Life Expectancy Diff Esecuzione del riepilogo: Media


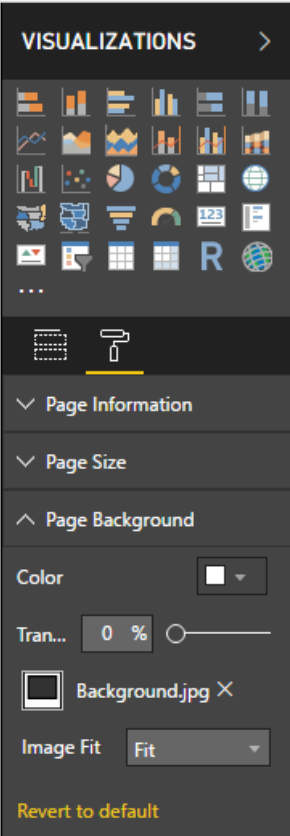
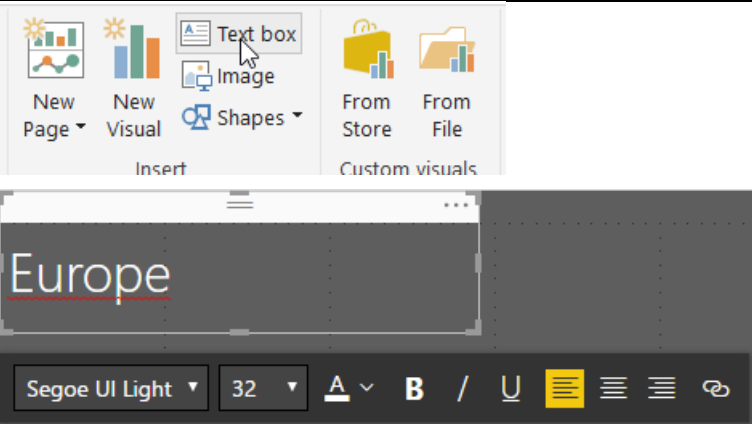
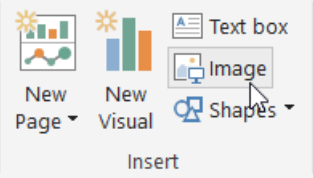
Regole: 11 Inverti l'ordine dei co... + Nuova regola


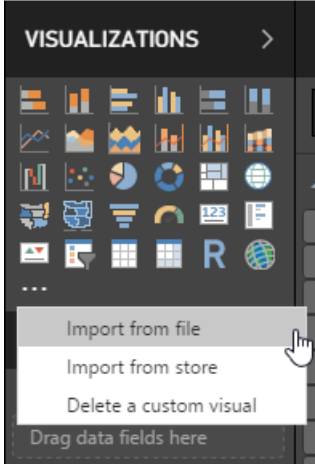
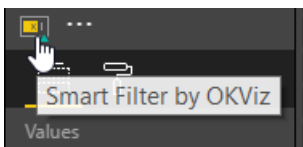
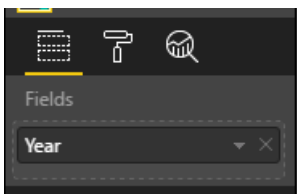
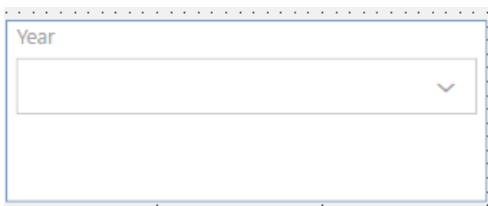
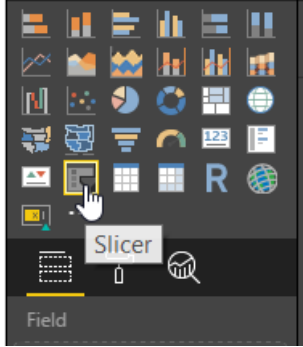
Se il valore è maggiore o uguale a 5 Numero e è minore di 100 Numero allora Red

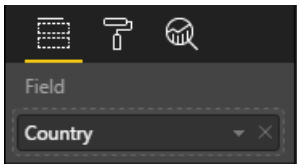
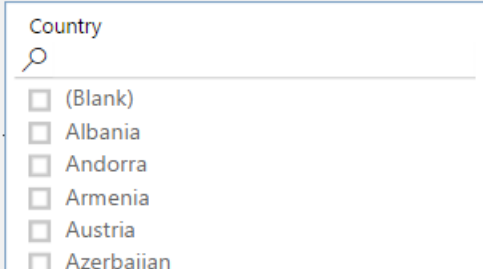
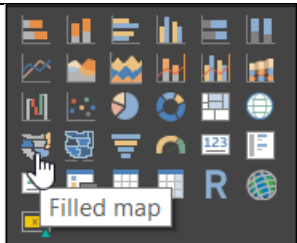
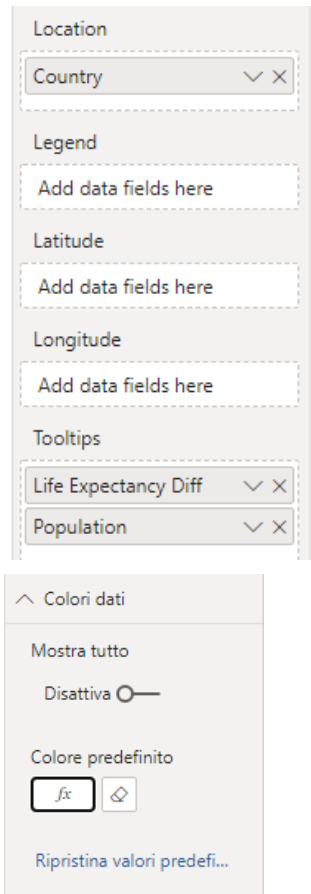

Country	Life Expectancy Avg	Life Expectancy Female	Life Expectancy Male	Life Expectancy Diff
Albania	156,10	159,90	152,50	3,70
Andorra	182,80	186,50	180,20	3,15
Armenia	222,40	231,60	212,40	6,40
Austria	648,20	668,90	626,30	5,33
Azerbaijan	519,90	537,30	502,50	4,97
Belarus	363,00	390,30	335,00	11,06
Belgium	644,70	665,30	623,20	5,26
Bulgaria	593,50	622,30	565,50	7,10
Croatia	616,70	642,80	589,80	6,63
Cyprus	652,50	670,20	635,00	4,40
Czech Republic	624,40	649,10	599,50	6,20
Denmark	639,10	655,40	622,30	4,14
Estonia	611,90	649,20	571,00	9,77
Finland	645,50	670,40	620,10	6,29
Former Yugoslav Republic of Macedonia, the	600,30	616,90	584,10	4,10
France	656,80	683,30	629,10	6,78
Total	25.013,30	25.974,60	24.026,60	6,11

	
<p>Nelle proprietà del chart andare su “Data colors” e modificare la misura con cui viene colorata la mappa in Avg([Education Level 3-8 %])</p> <p>Nella parte di Data colors andare nel link “controlli avanzati” così si apre la finestra della formattazione condizionale. Poi selezionare come titolo “Life Expectancy by Education Level 3-8 %”</p> <p>Impostare come colore minimo il seguente valore e come valore massimo #FAE99F il seguente valore #FF1D00</p>	 

Data visualization : Europe Geo

Azione	Screenshot
<p>Creare un nuovo foglio cliccando sul + e rinominandolo in “Europe Geo”</p>	
<p>Caricare un'immagine di sfondo per caricare la barra del titolo Background.jpg e impostare a Fit la proprietà “image Fit”</p>	
<p>Inserire una TextBox in cui scriviamo “Europe” con carattere 32 di colore bianco. Nelle impostazioni generali inserire 184 come “width” e “height” 56 e come “Xposition” o “Yposition” o</p>	
<p>Inserire un'immagine. Es. europe-flag.png</p>	


<p>Nelle impostazioni generali inserire 96 come “width” e “height” 64 e come “Xposition” 1184 e “Yposition” 0</p>		
<p>Selezionare i puntini nella parte dei visual per caricare un filtro custom per l'anno.</p> <p>Scegliere importa da file e selezionare dalla cartella locale il file “smartFilter.pbiviz”</p> <p>Usare il nuovo oggetto visual per inserirlo nella pagina che stiamo costruendo</p> <p>Come campo per filtrare selezionare “Year” e impostare 2014</p>	   	
<p>Inserire uno slicer e selezionare il campo “Country”</p>		


			
<p>Inserire una “Filled Map” dagli oggetti visual</p> <p>Inserire la “country” nella location e la “Population” e la “Life Expectancy Diff” nella sezione Tooltips</p>	 		

Nella parte “data colors” selezionare dai puntini a lato la “conditional formatting”. Successivamente scegliere “color scale” e il campo population con summarization “sum”

Format by Color scale ▼ [Learn more](#)

Based on field Sum of Population ▼ Summarization Sum ▼ Default formatting ⓘ As zero ▼

Minimum Lowest value ▼  ▼ Enter a value

Maximum Highest value ▼  ▼ Enter a value

☐ Diverging

