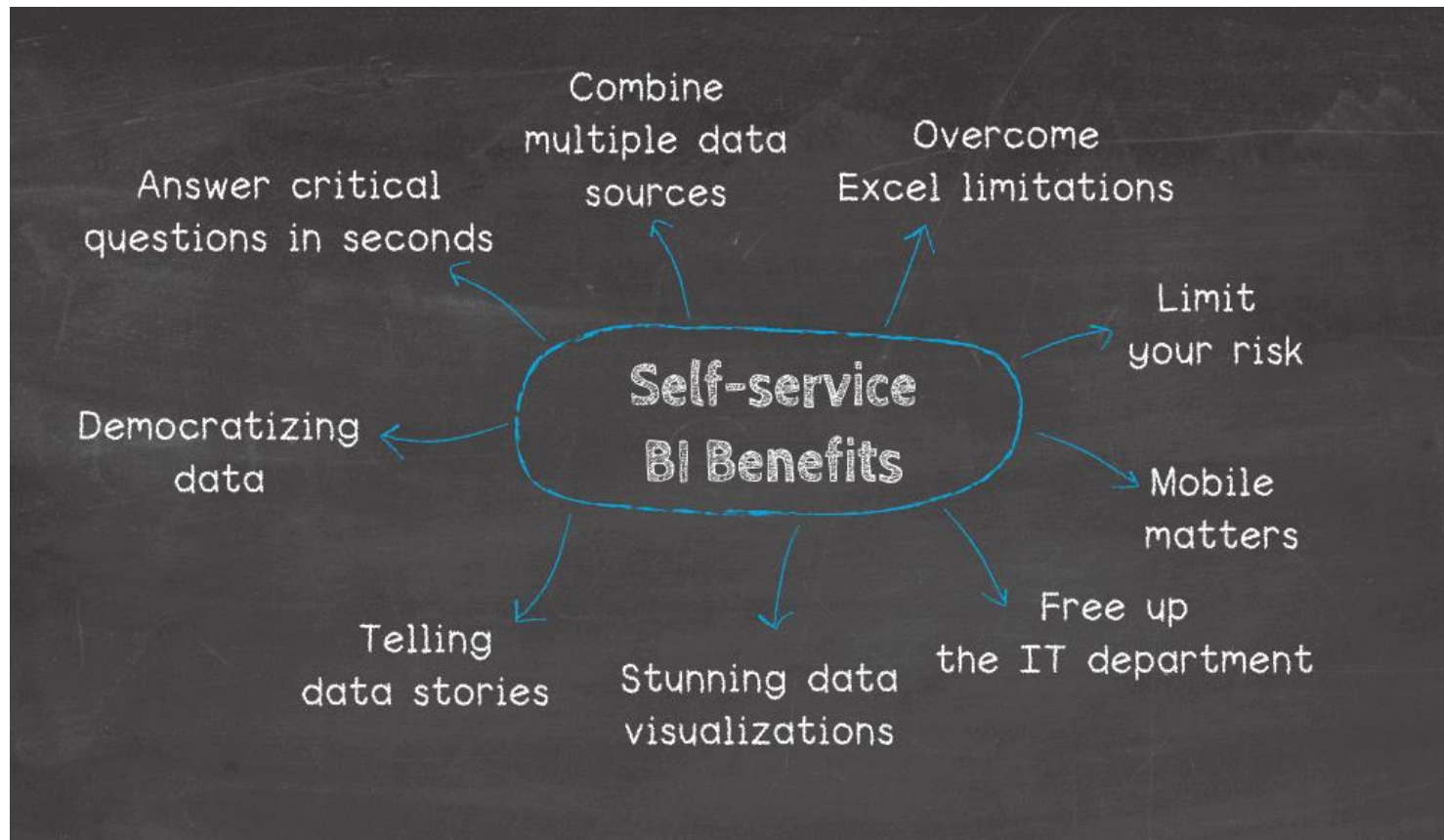


Self Service Business Intelligence (SSBI)

Huvudsakliga områden inom SSBI



- Data analytics och preparation
- Data Visualisation
- Collaboration och sharing

Power BI

[Installationsguide](#)

- "A business analytics solution that lets you visualize your data and share insights across your organisation. Connect to hundreds of data sources and bring your data to life with live dashboards and reports" - skaparna av Power BI

Vårt mål!

Antal affärsmöjligheter

487

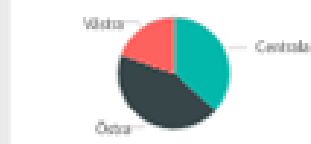
Antal affärsmöjligheter EFTER PARTNERDRIVEN, AFFÄRSMÖJLIGHET...



Antal affärsmöjligheter EFTER PARTNERDRIVEN, FÖRSÄLNINGSS...



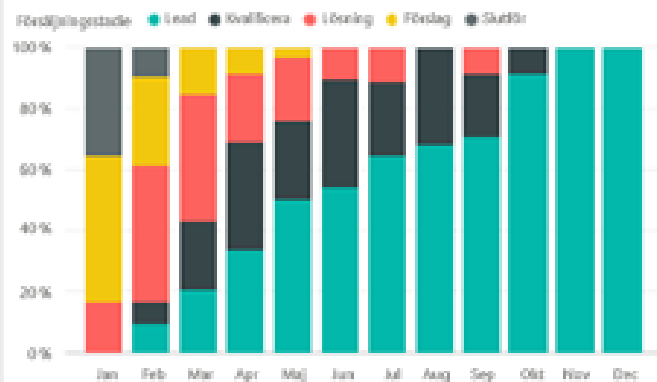
Antal affärsmöjligheter EFTER REGION



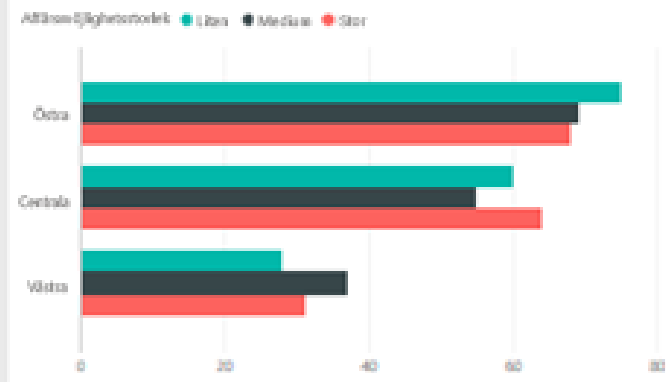
Intäkter

\$2md

Antal affärsmöjligheter EFTER MÅNAD, FÖRSÄLNINGSSTADIE



Antal affärsmöjligheter EFTER REGION, AFFÄRSMÖJLIGHETSSTORLEK



Antal affärsmöjligheter EFTER FÖRSÄLNINGSSTADIE



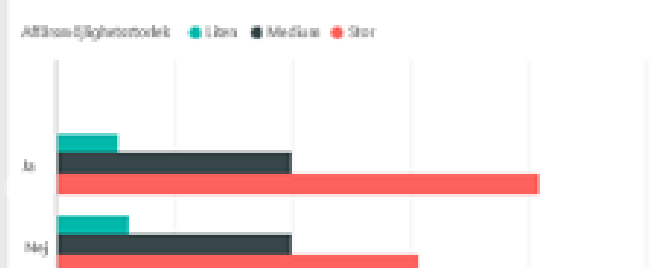
Genomsnittliga intäkter EFTER PARTNERDRIVEN, AFFÄRSMÖJLIG...



Intäkter EFTER FÖRSÄLNINGSSTADIE, PARTNERDRIVEN



Genomsnittliga intäkter EFTER PARTNERDRIVEN, AFFÄRSMÖJLIGHETSSTORLEK



Beräknade intäkter

\$461M

Beräknade intäkter EFTER AFFÄRSMÖJLIGHETSSTORLEK



Plattformer för Power BI

Power BI Desktop – lokal, jobbar med lokala dataset (endast Windows)

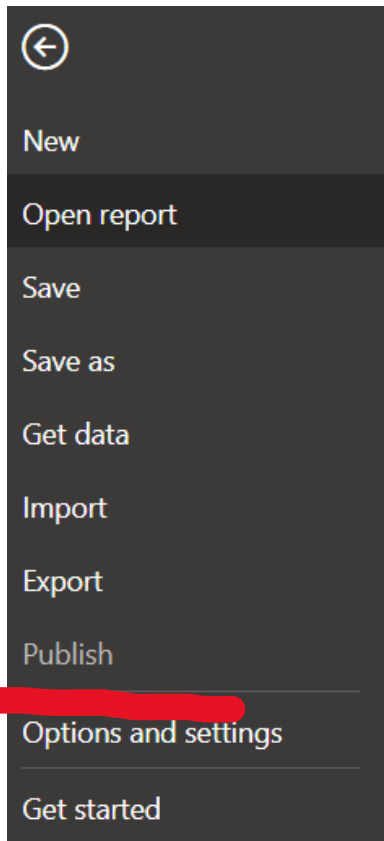
Power BI Service - cloudlösning, dashboards, fungerar på alla datorer

Power BI Mobile - lätt att tillgå, mindre fokus på detta

Fördelar med SSBI


- Låg entry level - behöver ingen bakgrund inom IT eller datavetenskap, även om det hjälper
- Lättillgängliga sammanställningar av komplexa frågor
- Inget behov av att skapa egna APler för att koppla sammanställa data

Grundläggande inställningar



Open report

Recent reports

 Browse reports



Name

Opened



TestSSBI.pbix

C: > Users > carlj > OneDrive > Dokument > TestSSBI.pbix

3 days ago



Regional Settings

Options

GLOBAL

Data Load

Power Query Editor

DirectQuery

R scripting

Python scripting

Security

Privacy

Regional Settings

Updates

Usage Data

Diagnostics

Preview features

Auto recovery

Report settings

CURRENT FILE

Data Load

Regional Settings

Privacy

Auto recovery

Type Detection

- ☐ Always detect column types and headers for unstructured sources
- ☒ Detect column types and headers for unstructured sources according to each file's setting
- ☐ Never detect column types and headers for unstructured sources

Background Data

- ☐ Always allow data previews to download in the background
- ☒ Allow data previews to download in the background according to each file's setting
- ☐ Never allow data previews to download in the background

Loading tables simultaneously

When you load data into Power BI (via import or DirectQuery), each data table is backed by a Power Query query. These queries are evaluated simultaneously instead of one-by-one, which can speed up the process. In certain situations, you might want to adjust the default number of simultaneous query evaluations and memory used. [Learn more](#)

Maximum number of simultaneous evaluations ⓘ

Maximum memory used per simultaneous evaluation (MB) ⓘ

Time intelligence

- ☒ Auto date/time for new files ⓘ [Learn more](#)

OK

Cancel

Datainsamling från olika källor

Web

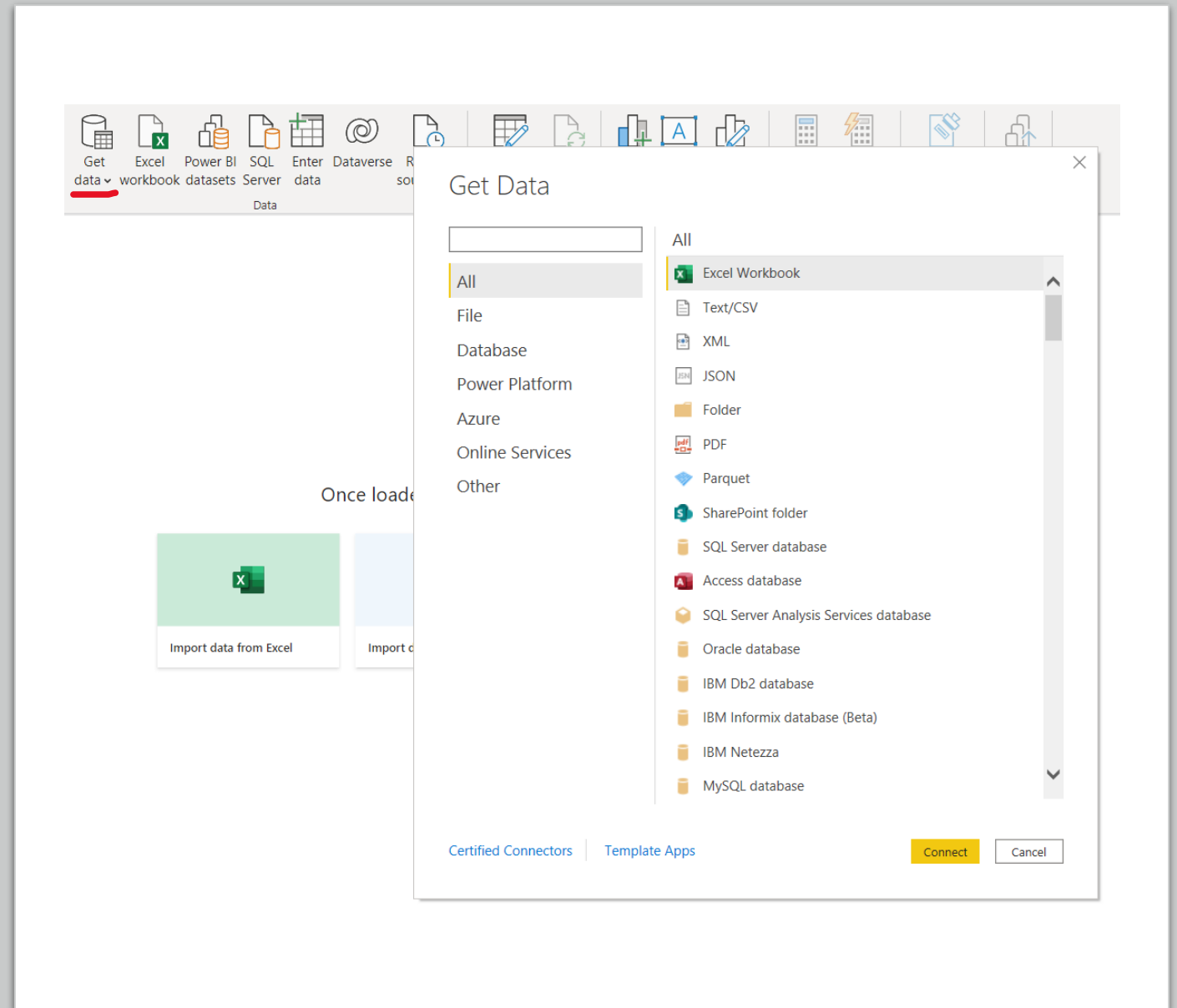
Json

CSV

XML

SQL

..och mycket mer

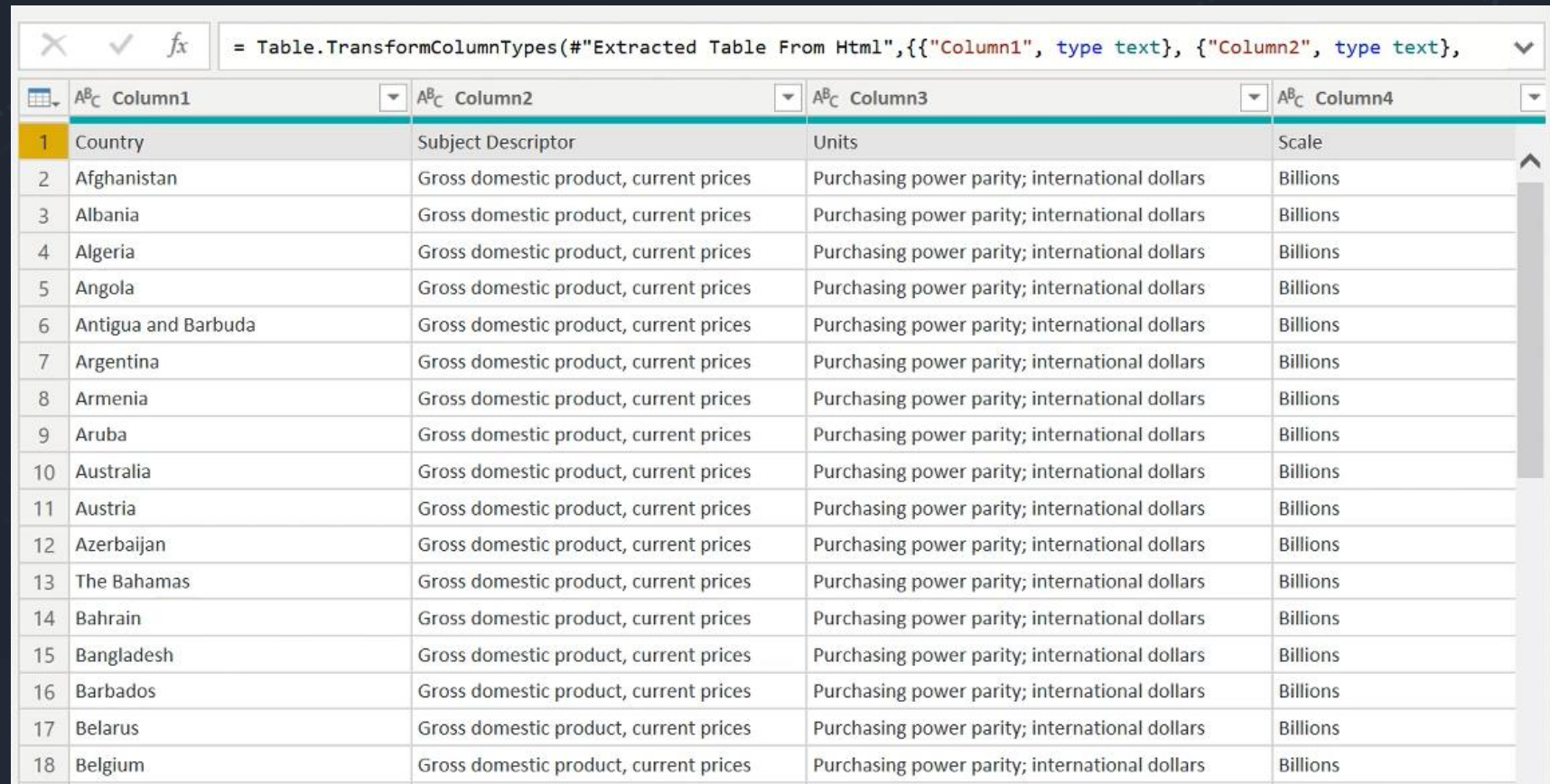




Exempel – Data från International Monetary Fund

- GDP för 2014-2019, världens alla länder
- Länk: [IMF World Database](#)

Kan effektivt spara ner
tabelldata via Get Data ->
Välj Web -> URL
Måste dock hantera headers



Formula bar: `= Table.TransformColumnTypes("#Extracted Table From Html",{"Column1", type text}, {"Column2", type text},`

	Column1	Column2	Column3	Column4
1	Country	Subject Descriptor	Units	Scale
2	Afghanistan	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions
3	Albania	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions
4	Algeria	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions
5	Angola	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions
6	Antigua and Barbuda	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions
7	Argentina	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions
8	Armenia	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions
9	Aruba	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions
10	Australia	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions
11	Austria	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions
12	Azerbaijan	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions
13	The Bahamas	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions
14	Bahrain	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions
15	Bangladesh	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions
16	Barbados	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions
17	Belarus	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions
18	Belgium	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions

<div> ✕ ✓ <i>fx</i> </div> <div>= Table.TransformColumnTypes("#Changed Type with Locale",{{"Year", Int64.Type}})</div>			
	<div><div><div><div></div></div><div><div></div></div></div><div><div>ABC</div><div>Country</div></div><div></div></div>	<div><div><div><div></div></div><div><div></div></div></div><div><div>ABC</div><div>Subject Descriptor</div></div><div></div></div>	<div><div><div><div></div></div><div><div></div></div></div><div><div>ABC</div><div>Units</div></div><div></div></div>
1	Afghanistan	Gross domestic product, current prices	Purchasing power parity; international dollars
2	Afghanistan	Gross domestic product, current prices	Purchasing power parity; international dollars
3	Afghanistan	Gross domestic product, current prices	Purchasing power parity; international dollars
4	Afghanistan	Gross domestic product, current prices	Purchasing power parity; international dollars
5	Afghanistan	Gross domestic product, current prices	Purchasing power parity; international dollars
6	Afghanistan	Gross domestic product, current prices	Purchasing power parity; international dollars
7	Afghanistan	Gross domestic product, current prices	Purchasing power parity; international dollars
8	Afghanistan	Gross domestic product, current prices	Purchasing power parity; international dollars
9	Albania	Gross domestic product, current prices	Purchasing power parity; international dollars

Förbehandla -> close and apply

The screenshot displays the Microsoft Power BI Desktop interface. The top ribbon includes tabs for File, Home, Insert, Modeling, View, and Help. The Home tab is active, showing various icons for data sources, queries, visualizations, and calculations. On the left, the navigation pane shows a grid icon highlighted with a red box. The main area contains the text "Build visuals with your data" and "Select or drag fields from the Fields pane onto the report canvas." Below this is an illustration of a report card and a list of fields. On the right, the Fields pane is open, showing a search bar and a list of fields under "Table 1":

- ☐ Country
- ☐ Σ GDP
- ☐ Scale
- ☐ Subject Descriptor
- ☐ Units
- ☐ Σ Year

The Fields pane is also highlighted with a red box. Below the Fields pane, the Visualizations pane is visible, showing options for Values, Drill through, Cross-report, and Keep all filters.



Data view -
Vi har till
exempel länder
I stringformat
som kan
omvandlas

	Country	Subject Descriptor	Units	Scale	Year	GDP
	Afghanistan	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	62.948
	Albania	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	31.51
	Algeria	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	557.368
	Angola	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	193.882
	Antigua and Barbuda	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	1.998
	Argentina	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	853.398
	Armenia	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	24.482
	Aruba	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	3.966
	Australia	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	1114.731
	Austria	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	400.074
	Azerbaijan	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	169.742
	The Bahamas	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	11.293
	Bahrain	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	61.878
	Bangladesh	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	538.751
	Barbados	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	4.782
	Belarus	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	179.363
	Belgium	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	486.596
	Belize	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	2.886
	Benin	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	29.716
	Bhutan	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	5.524
	Bolivia	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	70.562
	Bosnia and Herzegovina	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	39.293
	Botswana	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	35.684
	Brazil	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	3315.854
	Brunei Darussalam	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	33.035
	Bulgaria	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	132.426
	Burkina Faso	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	33.066
	Burundi	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	8.088
	Cabo Verde	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	3.296
	Cambodia	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	50.395

Table: Table 1 (1 541 rows)



Column tools ger oss möjlighet att omvandla stringdata i Country till geografisk data

File Home Help **Table tools** Column tools

Name Format Summarization Sort by column  Data groups 

123 Data type \$ % , .00 Auto Data category Sort Groups

Structure Formatting Properties Sort Groups

Country	Subject Descriptor	Units	Scale	Year	GDP
Afghanistan	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	62.948
Albania	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	31.51
Algeria	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	557.368
Angola	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	193.882
Antigua and Barbuda	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	1.998
Argentina	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	853.398
Armenia	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	24.482

Country ändrat från string till geografisk data, något vi använder i Visualisations

Build visuals with your data

Select or drag fields from the **Fields** pane onto the report canvas.

A screenshot of the Power BI interface. The 'Visualizations' pane on the left shows various chart and table icons. The 'Fields' pane on the right shows a search bar and a list of fields under 'Table 1'. The 'Country' field is highlighted with a red box. Below the fields pane, there are sections for 'Values', 'Drill through', and 'Cross-report' with toggle switches and input fields.

Visualizations

Fields

Search

Table 1

- ☒ Country
- ☐ GDP
- ☐ Scale
- ☐ Subject Descriptor
- ☐ Units
- ☐ Year

Values

Add data fields here

Drill through

Cross-report

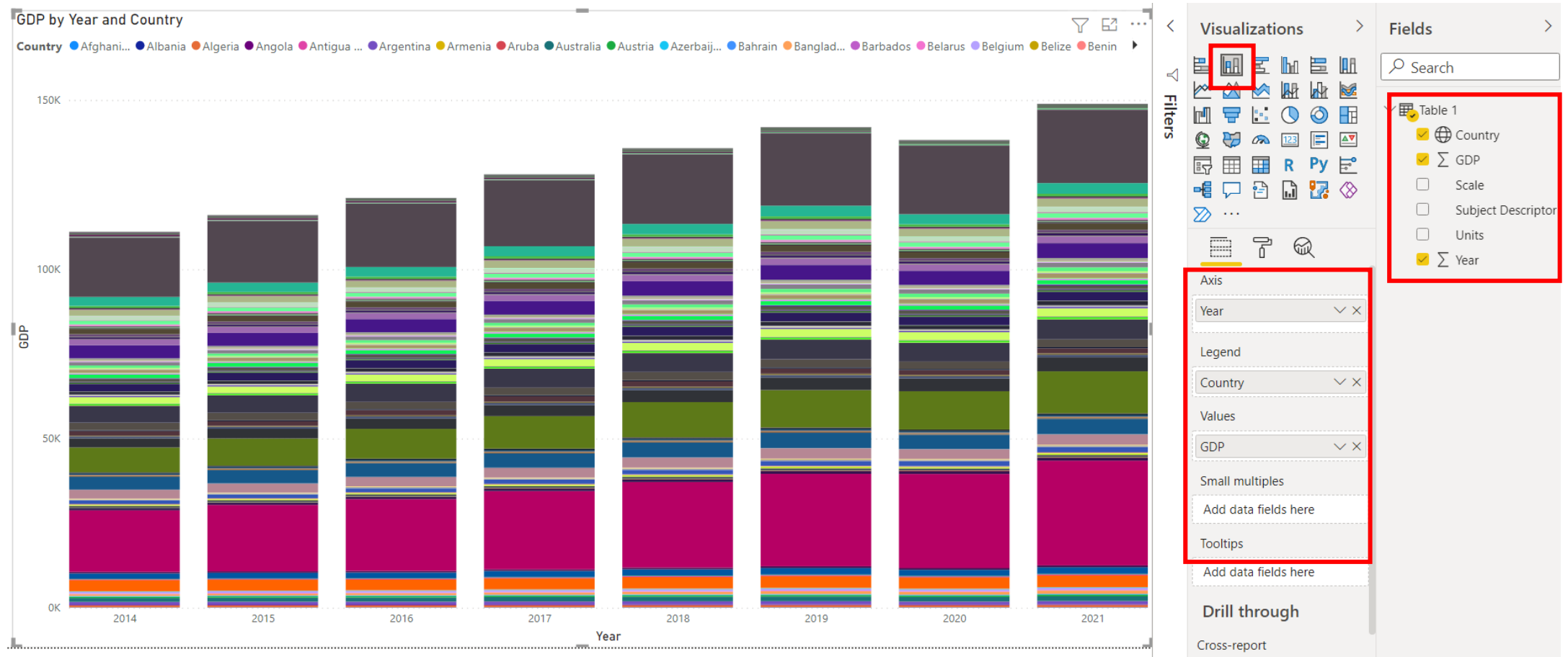
Off

Keep all filters

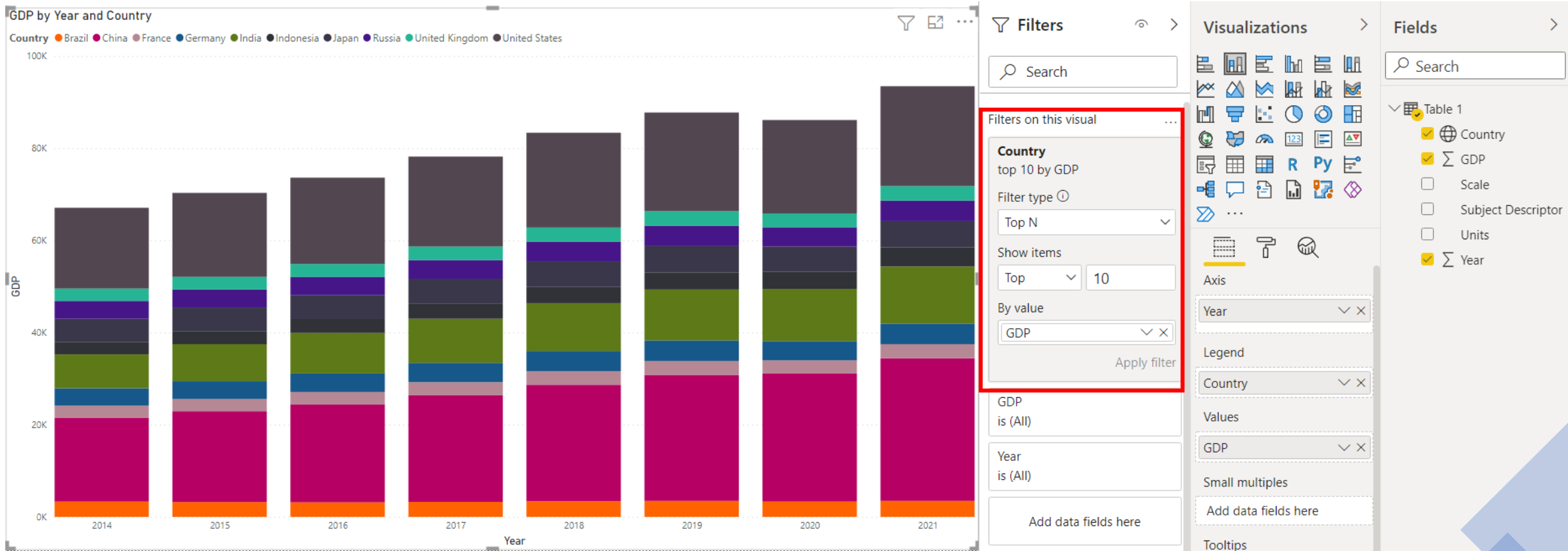
On

Add drill-through fields here

Kan till exempel välja bar plot och mäta GDP per år. Lite rörigt med så pass många länder.

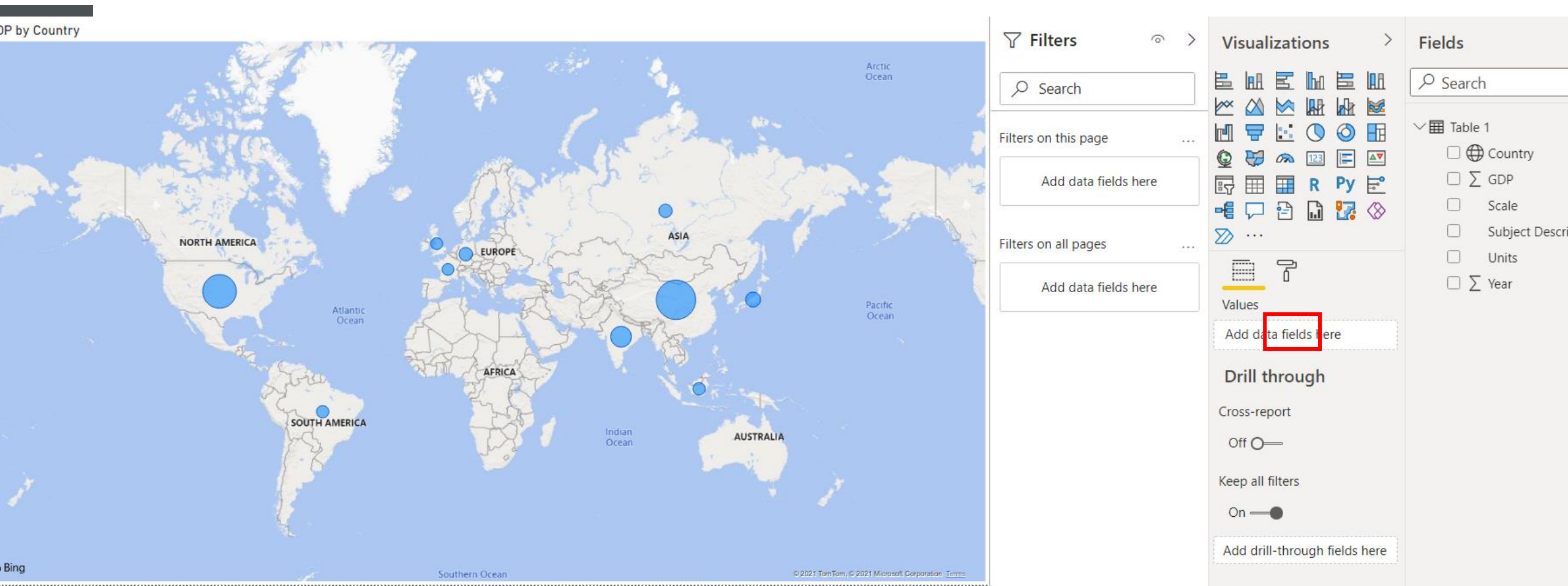


Filtrering på kategori Country, condition GDP

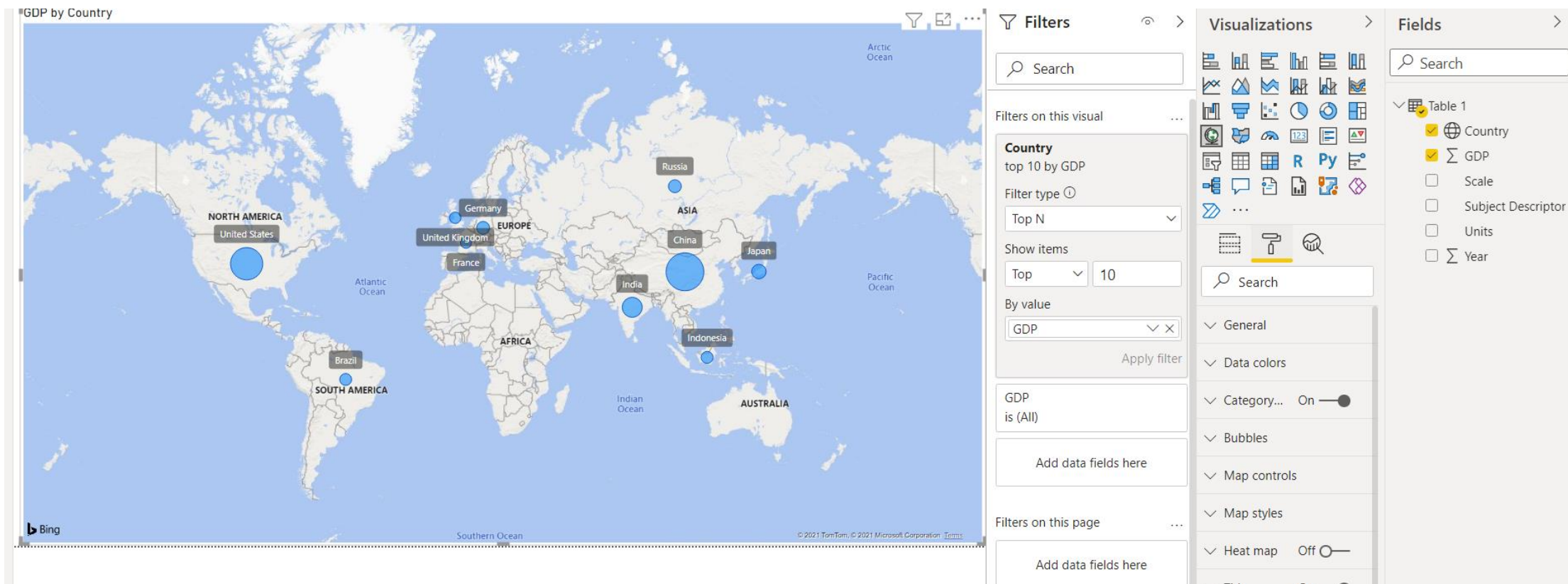


Har vi egentligen dragit någon
nytta av vår geografiska data i
country än?

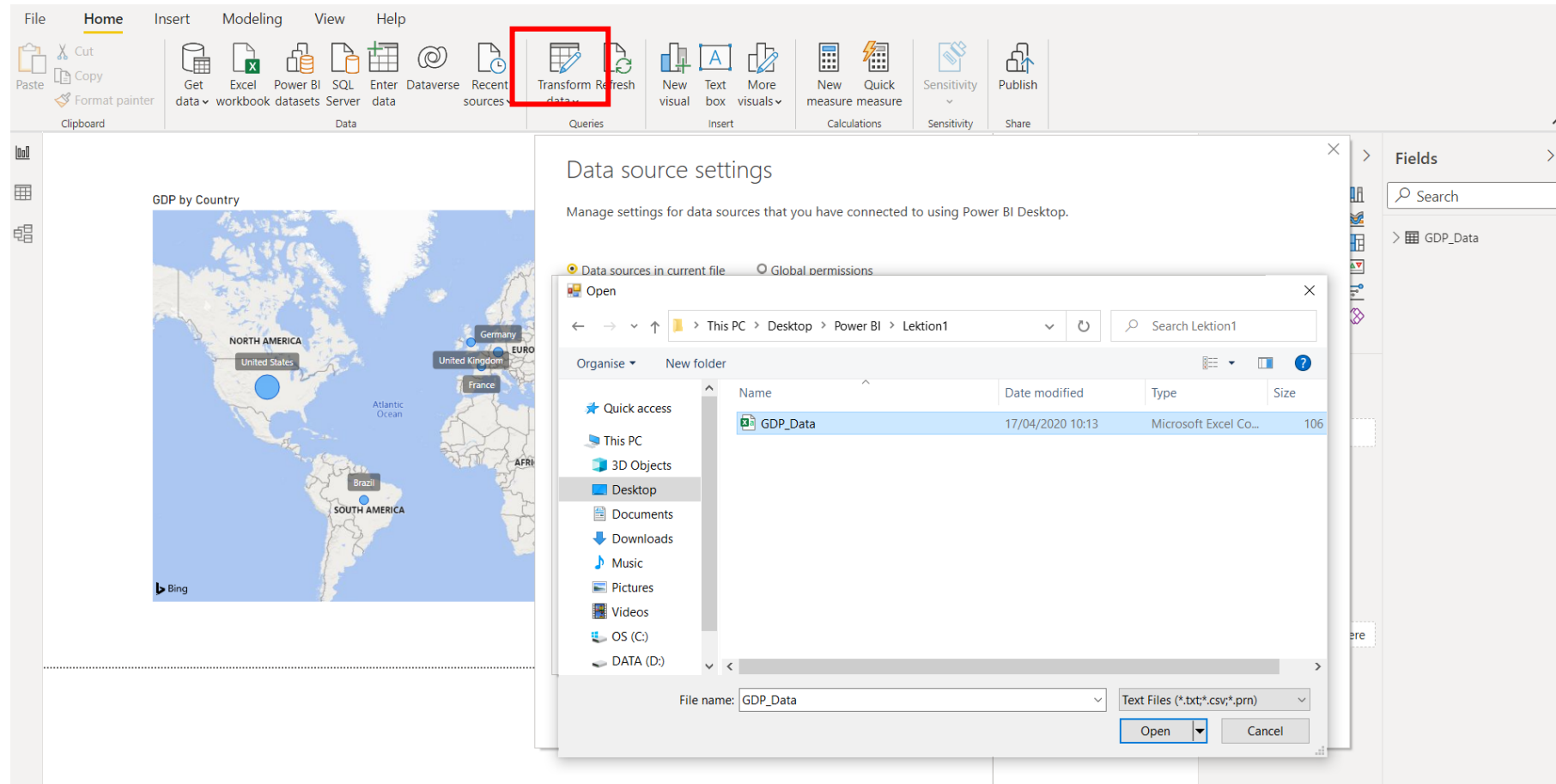
Ändra visualisation till map och plotta geografisk information



Kan slutligen ta bort kategorifiltret



Hantera paths i Power BI – Transform Data -> Data Source Settings -> Change Data Source



Population och estimerad population

Queries [3] <

fx = Csv.Document(File.Contents("C:\Users\carlj\OneDrive\Skrivbord\Power BI\Lektion2\Source\population-1950-1999.csv"),[Delimiter=";", Columns=9, Encoding=65001, ...])

	Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8
1	column1	column2	column3	column4	column5	column6	column7	column8
2	LocID	Location	Time	AgeGrp	AgeGrpStart	AgeGrpSpan	PopMale	PopFemale
3	4	Afghanistan	1950	0-4	0	5	630.044	661.578
4	8	Albania	1950	0-4	0	5	93.94	86.84
5	12	Algeria	1950	0-4	0	5	715.107	688.027
6	24	Angola	1950	0-4	0	5	368.476	370.76
7	28	Antigua and Barbuda	1950	0-4	0	5	3.553	3.539
8	32	Argentina	1950	0-4	0	5	1009.182	985.374
9	51	Armenia	1950	0-4	0	5	73.041	77.315
10	533	Aruba	1950	0-4	0	5	3.327	3.422
11	36	Australia	1950	0-4	0	5	454.774	433.968
12	40	Austria	1950	0-4	0	5	263.899	252.23
13	31	Azerbaijan	1950	0-4	0	5	178.478	163.378
14	44	Bahamas	1950	0-4	0	5	5.982	6.078
15	48	Bahrain	1950	0-4	0	5	10.293	9.945
16	50	Bangladesh	1950	0-4	0	5	3169.321	3068.531
17	52	Barbados	1950	0-4	0	5	13	13
18	112	Belarus	1950	0-4	0	5	333.7	325.456
19	56	Belgium	1950	0-4	0	5	355.178	341.642
20	84	Belize	1950	0-4	0	5	5.456	5.402
21	204	Benin	1950	0-4	0	5	143.828	164.993
22	64	Bhutan	1950	0-4	0	5	16.236	15.549
23	68	Bolivia (Plurinational State of)	1950	0-4	0	5	252.122	244.114
24	70	Bosnia and Herzegovina	1950	0-4	0	5	195	189.499
25	72	Botswana	1950	0-4	0	5	31.319	30.913
26	76	Brazil	1950	0-4	0	5	4532.746	4450.852
27	96	Brunei Darussalam	1950	0-4	0	5	3.491	3.181
28	100	Bulgaria	1950	0-4	0	5	375	358
29	854	Burkina Faso	1950	0-4	0	5	354.708	336.894
30	108	Burundi	1950	0-4	0	5	195.744	191.666

Uppgift

- Gå in på <https://www.avanza.se/marknadsoversikt.html>
- Hämta in data via URL till Power BI <https://docs.microsoft.com/sv-se/power-bi/connect-data/desktop-tutorial-importing-and-analyzing-data-from-a-web-page>
- Inspektera tabellerna. Ser ni något som begränsar (hint - avgör vilken ordning de kommer i)
- Välj slutligen tabeller och använd transformfunktionen
- Namnge tabeller till lämpliga värden

Data preparation

Justera rows

Justera columns

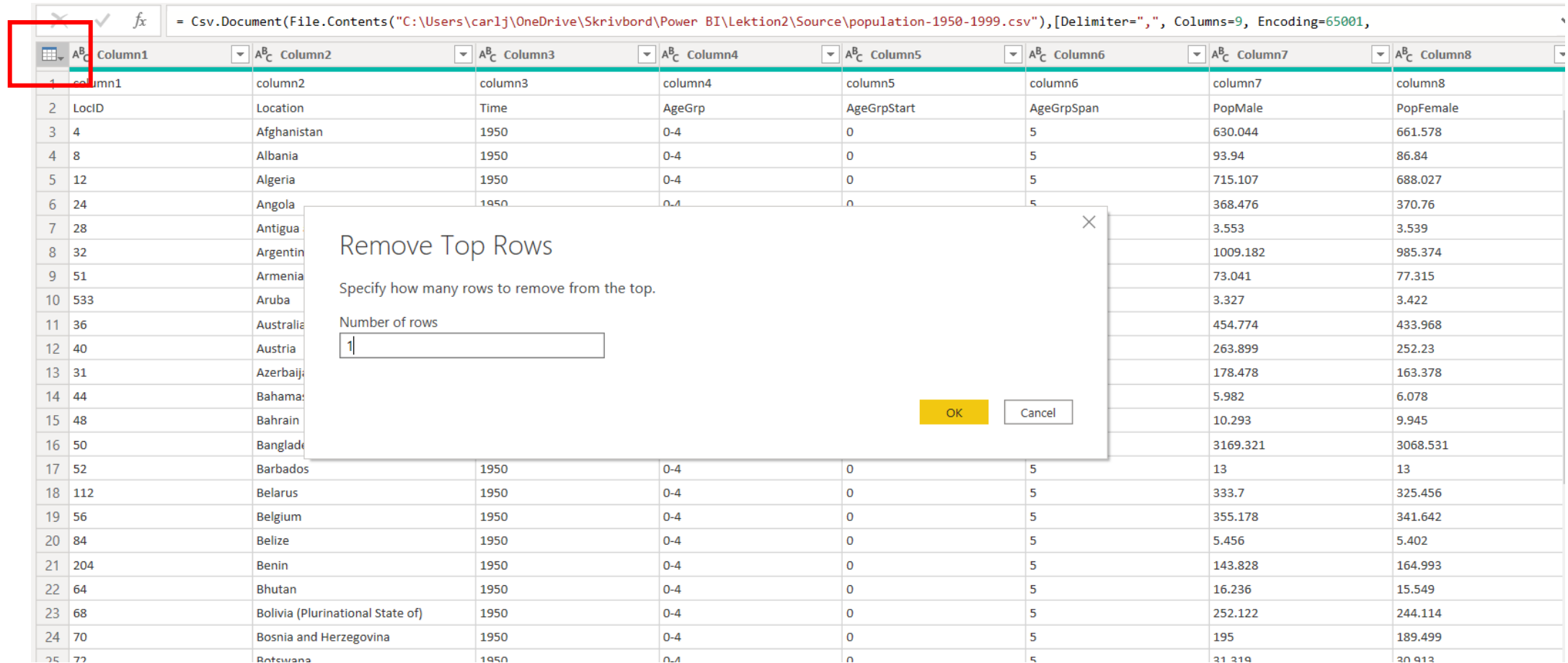
Hantera NA-värden (till exempel filtrering)

Hantera tomma rader

Eventuell sortering

Glöm inte Apply innan save!

Drop down menu med bland annat Row Removal



The screenshot displays a Power BI data view with a table containing 8 columns and 25 rows. The columns are labeled 'Column1' through 'Column8'. The first row is highlighted in blue. A red box is drawn around the first row's column headers. A dialog box titled 'Remove Top Rows' is open, prompting the user to 'Specify how many rows to remove from the top.' The input field for 'Number of rows' contains the value '1'. The dialog box has 'OK' and 'Cancel' buttons.

Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	
1	column1	column2	column3	column4	column5	column6	column7	column8
2	LocID	Location	Time	AgeGrp	AgeGrpStart	AgeGrpSpan	PopMale	PopFemale
3	4	Afghanistan	1950	0-4	0	5	630.044	661.578
4	8	Albania	1950	0-4	0	5	93.94	86.84
5	12	Algeria	1950	0-4	0	5	715.107	688.027
6	24	Angola	1950	0-4	0	5	368.476	370.76
7	28	Antigua					3.553	3.539
8	32	Argentina					1009.182	985.374
9	51	Armenia					73.041	77.315
10	533	Aruba					3.327	3.422
11	36	Australia					454.774	433.968
12	40	Austria					263.899	252.23
13	31	Azerbaijan					178.478	163.378
14	44	Bahamas					5.982	6.078
15	48	Bahrain					10.293	9.945
16	50	Bangladesh					3169.321	3068.531
17	52	Barbados	1950	0-4	0	5	13	13
18	112	Belarus	1950	0-4	0	5	333.7	325.456
19	56	Belgium	1950	0-4	0	5	355.178	341.642
20	84	Belize	1950	0-4	0	5	5.456	5.402
21	204	Benin	1950	0-4	0	5	143.828	164.993
22	64	Bhutan	1950	0-4	0	5	16.236	15.549
23	68	Bolivia (Plurinational State of)	1950	0-4	0	5	252.122	244.114
24	70	Bosnia and Herzegovina	1950	0-4	0	5	195	189.499
25	72	Botswana	1950	0-4	0	5	21.319	20.913

Filtrera NA-värden

fx = Csv.Document(File.Contents("C:\Users\carlj\OneDrive\Skrivbord\Power BI\Lektion2\Source\population-2000-2049.csv"),[Delimiter=",", Columns=9, Encoding=65001,

Column1	A ^B C Column2	A ^B C Column3	A ^B C Column4	A ^B C Column5	A ^B C Column6	A ^B C Column7	A ^B C Column8	A ^B C Column9
	Sort Ascending		AgeGrp	AgeGrpStart	AgeGrpSpan	PopMale	PopFem	
	Sort Descending		0-4	0	5	2124.163	2042.	
	Clear Sort		NA	NA	NA	NA	NA	
	Clear Filter		NA	NA	NA	NA	NA	
	Remove Empty		NA	NA	NA	NA	NA	
	Text Filters		0-4	0	5	145.988	133.8	
	Search		0-4	0	5	1576.131	1508.	
	(Select All)		0-4	0	5	1535.574	1546.	
	2000		0-4	0	5	3.731	3.557	
	2001		0-4	0	5	1784.679	1722.	
	2002		0-4	0	5	104.766	91.78	
	2003		0-4	0	5	3.565	3.413	
	2004		0-4	0	5	661.475	617.2	
	NA		0-4	0	5	213.675	202.2	
	Time		0-4	0	5	376.068	336.4	
	List may be incomplete.		0-4	0	5	14.273	13.87	
	Load more		0-4	0	5	38.219	35.75	
	OK		0-4	0	5	8302.945	7979.	
	Cancel		0-4	0	5	9.51	9.193	
	Belarus	2000	0-4	0	5	234.879	221.5	
	Belgium	2000	0-4	0	5	293.92	282.1	
	Belize	2000	0-4	0	5	18.814	18.38	
	Benin	2000	0-4	0	5	618.965	601.5	
	Bhutan	2000	0-4	0	5	39.398	38.23	
	Bolivia (Plurinational State of)	2000	0-4	0	5	588.855	564.7	
	Bosnia and Herzegovina	2000	0-4	0	5	120.84	113.6	
	Botswana	2000	0-4	0	5	109.781	107.1	
	Brazil	2000	0-4	0	5	8883.973	8539.	



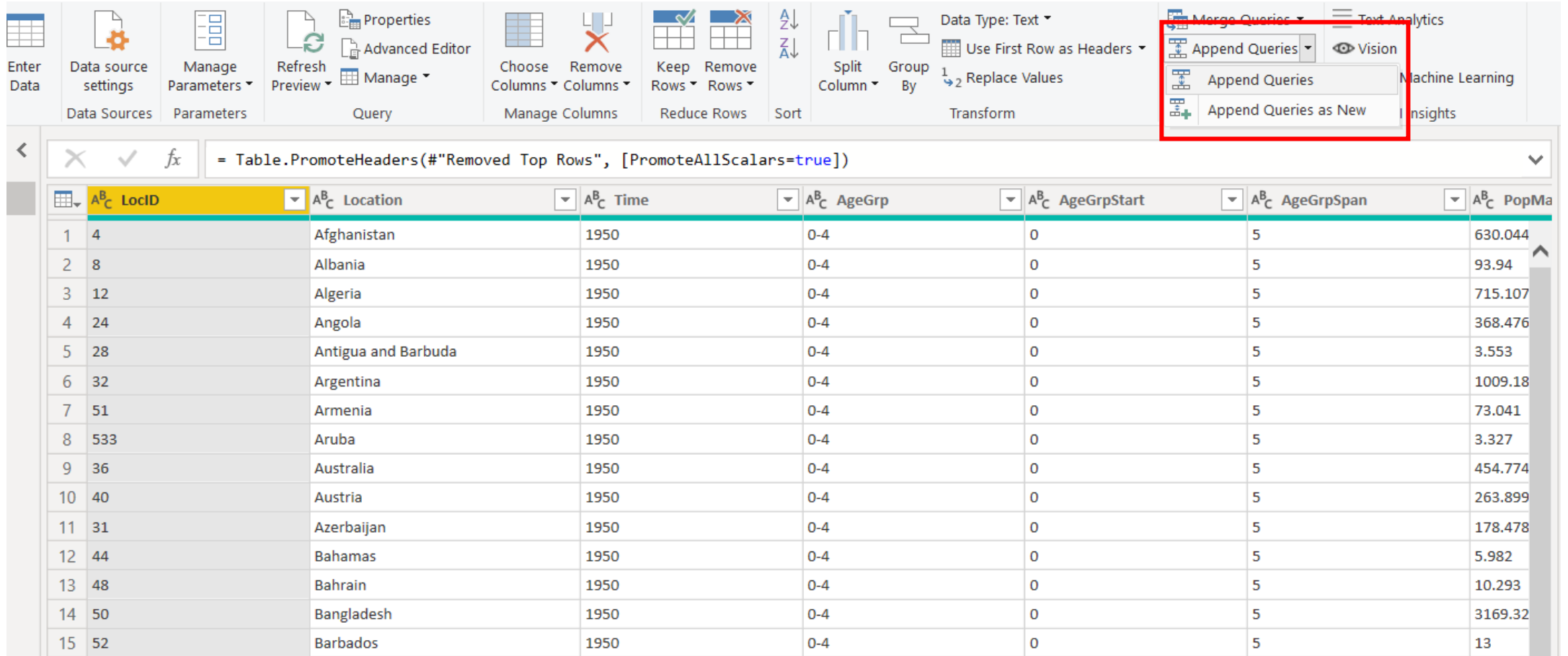
Appenda queries

Måste ha samma
typer av kolumner

Skiljer sig inte
nämnavärt från R,
Python, SQL eller
liknande

Skiljer mellan
append och
append as New

Append query



The screenshot displays the Power Query ribbon with the 'Merge Queries' dropdown menu open. The 'Append Queries' option is highlighted. The ribbon also includes sections for 'Enter Data', 'Data source settings', 'Manage Parameters', 'Query', 'Manage Columns', 'Reduce Rows', 'Sort', 'Transform', and 'Text Analytics'.

The formula bar shows the following expression:

```
= Table.PromoteHeaders("#Removed Top Rows", [PromoteAllScalars=true])
```

The data table below shows the following columns and rows:

	AB_C LocID	AB_C Location	AB_C Time	AB_C AgeGrp	AB_C AgeGrpStart	AB_C AgeGrpSpan	AB_C PopMa
1	4	Afghanistan	1950	0-4	0	5	630.044
2	8	Albania	1950	0-4	0	5	93.94
3	12	Algeria	1950	0-4	0	5	715.107
4	24	Angola	1950	0-4	0	5	368.476
5	28	Antigua and Barbuda	1950	0-4	0	5	3.553
6	32	Argentina	1950	0-4	0	5	1009.18
7	51	Armenia	1950	0-4	0	5	73.041
8	533	Aruba	1950	0-4	0	5	3.327
9	36	Australia	1950	0-4	0	5	454.774
10	40	Austria	1950	0-4	0	5	263.899
11	31	Azerbaijan	1950	0-4	0	5	178.478
12	44	Bahamas	1950	0-4	0	5	5.982
13	48	Bahrain	1950	0-4	0	5	10.293
14	50	Bangladesh	1950	0-4	0	5	3169.32
15	52	Barbados	1950	0-4	0	5	13

Append alla queries till en ny query

- Döp om resultatet och inspektera årtalen.
- Prova att ta bort en ursprungsquery. Vad händer?
- Vad tror du att det innebär för minnet på datorn?
- Passa på att göra någonting dumt i datan och

Hantera columns

The screenshot shows the Power Query ribbon with the 'Columns' dropdown menu open. The 'Choose Columns' and 'Go to Column' options are highlighted. Below the ribbon, a data table is displayed with the following columns: LocID, Location, Time, AgeGrp, AgeGrpStart, AgeGrpSpan, and PopMa. The 'Time' column is highlighted in yellow.

	LocID	Location	Time	AgeGrp	AgeGrpStart	AgeGrpSpan	PopMa
1	4	Afghanistan	1950	0-4	0	5	630.044
2	8	Albania	1950	0-4	0	5	93.94
3	12	Algeria	1950	0-4	0	5	715.107
4	24	Angola	1950	0-4	0	5	368.476
5	28	Antigua and Barbuda	1950	0-4	0	5	3.553
6	32	Argentina	1950	0-4	0	5	1009.18
7	51	Armenia	1950	0-4	0	5	73.041
8	533	Aruba	1950	0-4	0	5	3.327
9	36	Australia	1950	0-4	0	5	454.774
10	40	Austria	1950	0-4	0	5	263.899
11	31	Azerbaijan	1950	0-4	0	5	178.478
12	44	Bahamas	1950	0-4	0	5	5.982