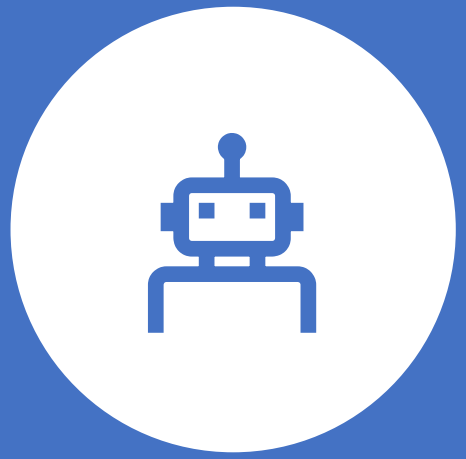
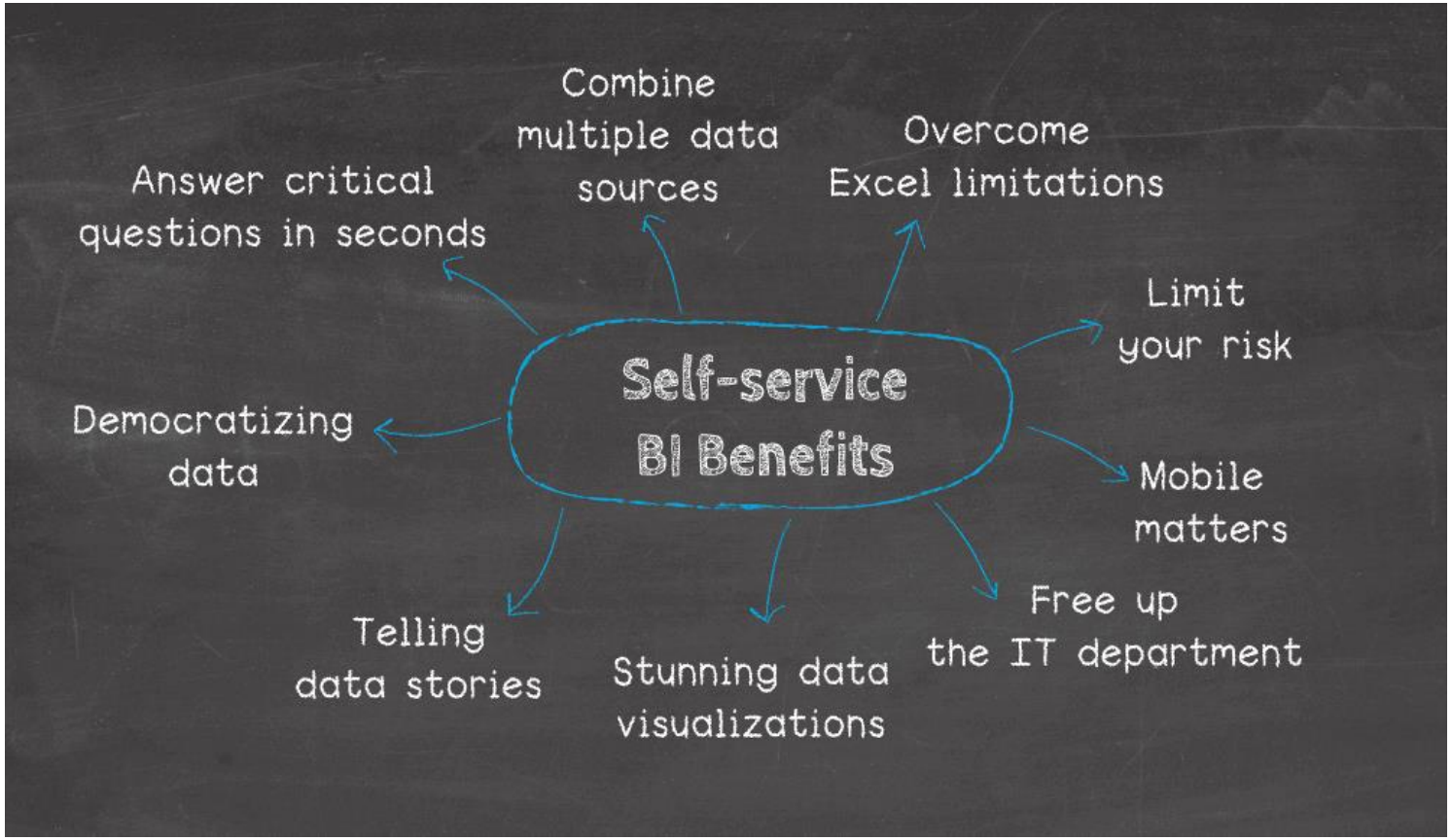


Self Service Business Intelligence (SSBI)

Huvudsakliga områden inom SSBI



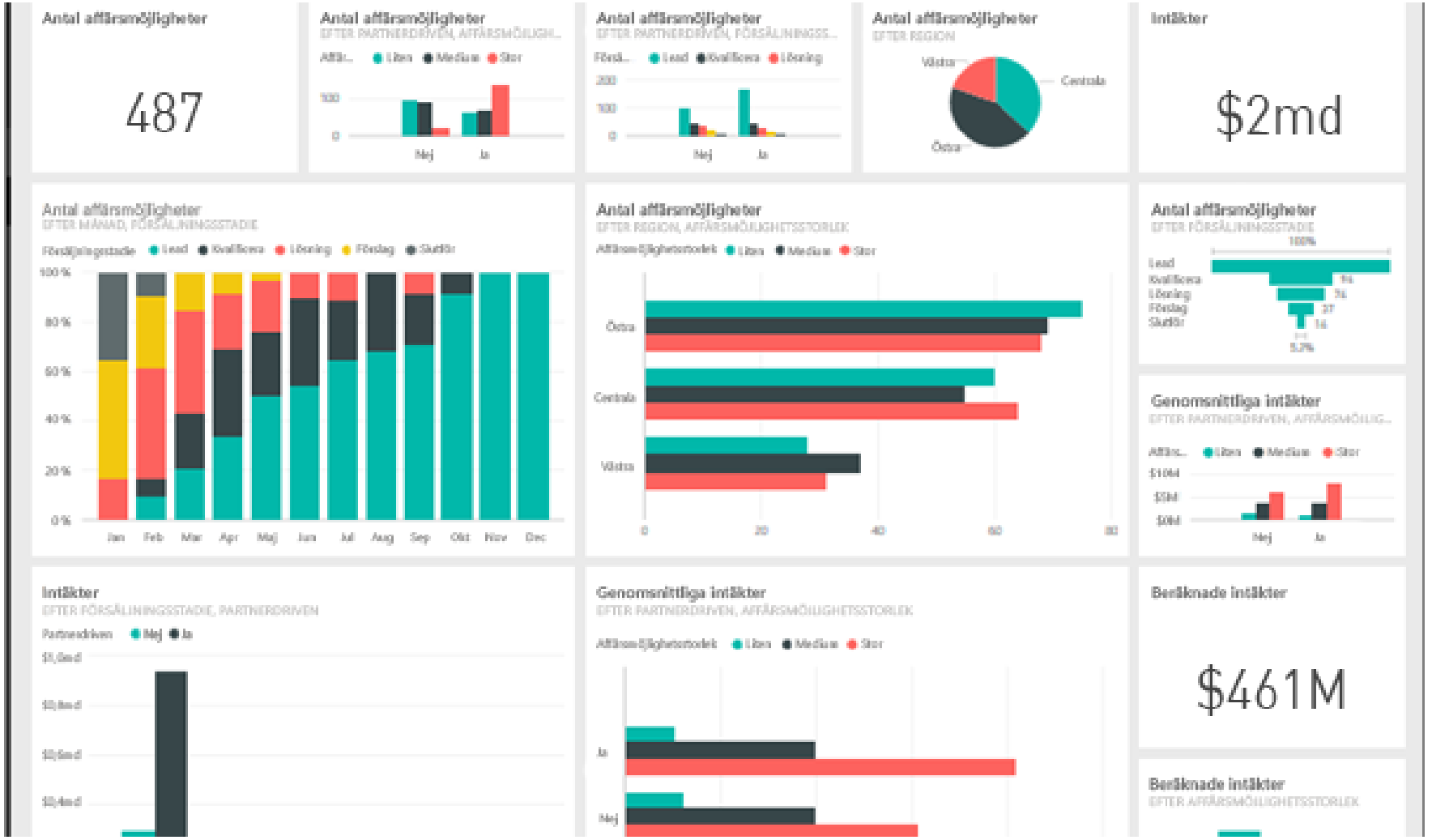
- Data analytics och preparation
- Data Visualisation
- Collaboration och sharing

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
Antal affärsmöjligheter
Antal affärsmöjligheter
Intäkter
$2md
Antal affärsmöjligheter
Antal affärsmöjligheter
Antal affärsmöjligheter
Genomsnittliga intäkter
Intäkter
Genomsnittliga intäkter
Beräknade intäkter
$461M
Beräknade intäkter

Plattformar för Power BI

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

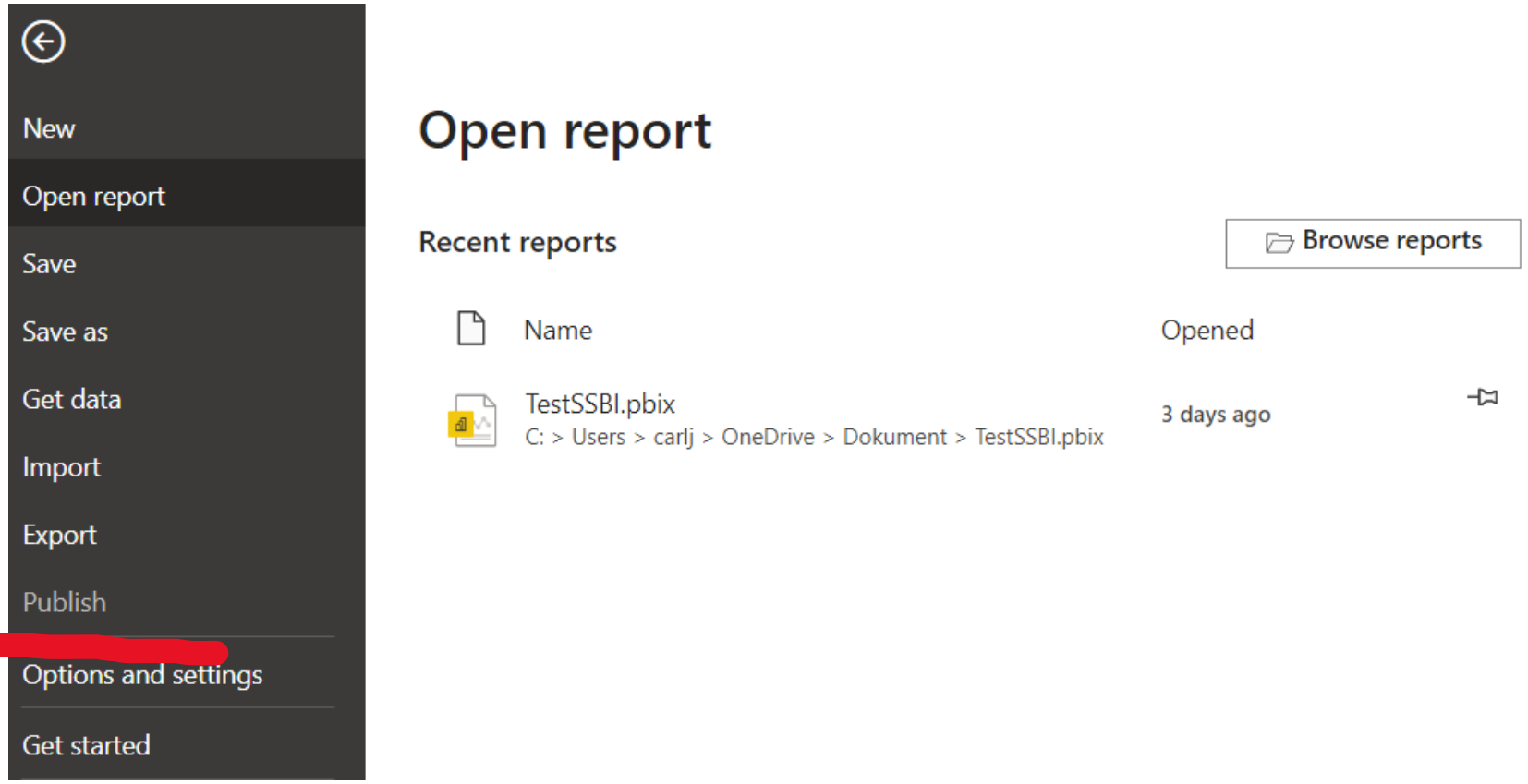
Power BI Service - cloudlösning, dashboards, fungerar på alla datorer

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

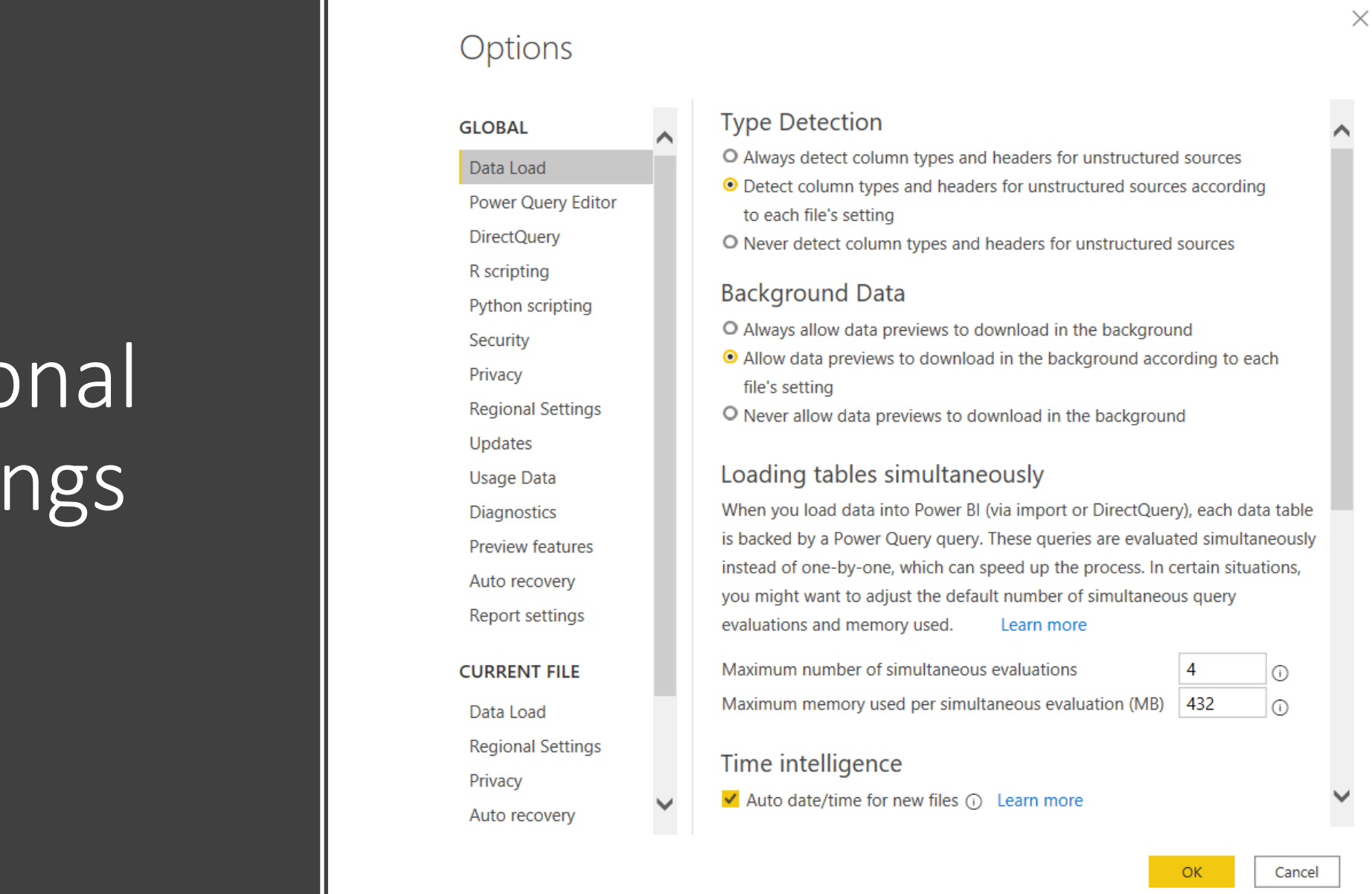
Fördelar med SSBI

- 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 APIer för att koppla sammanställa data

Grundläggande inställningar



Regional Settings



Datainsamling från olika källor

Web

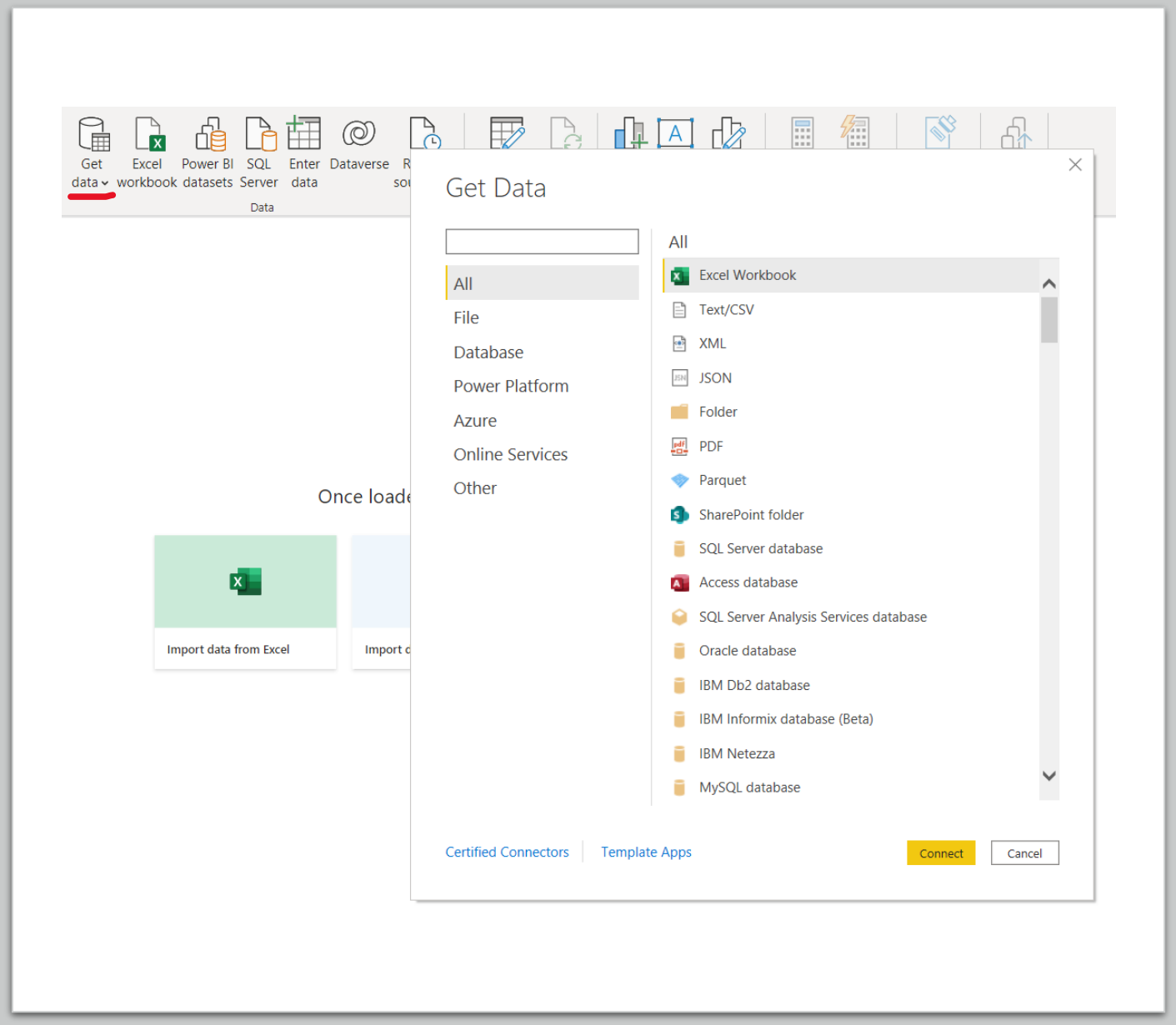
Json

CSV

XML

SQL

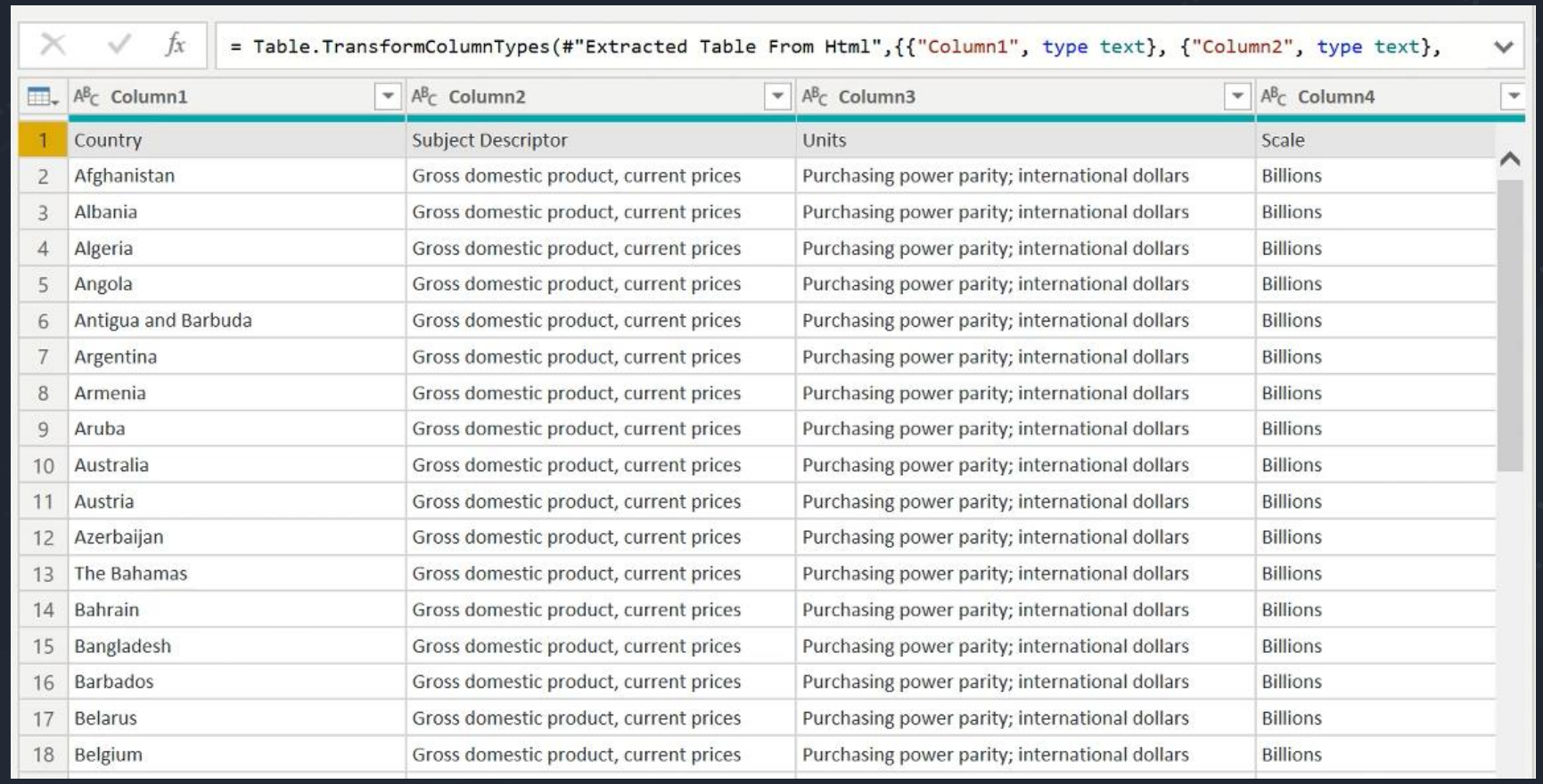
..och mycket mer



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



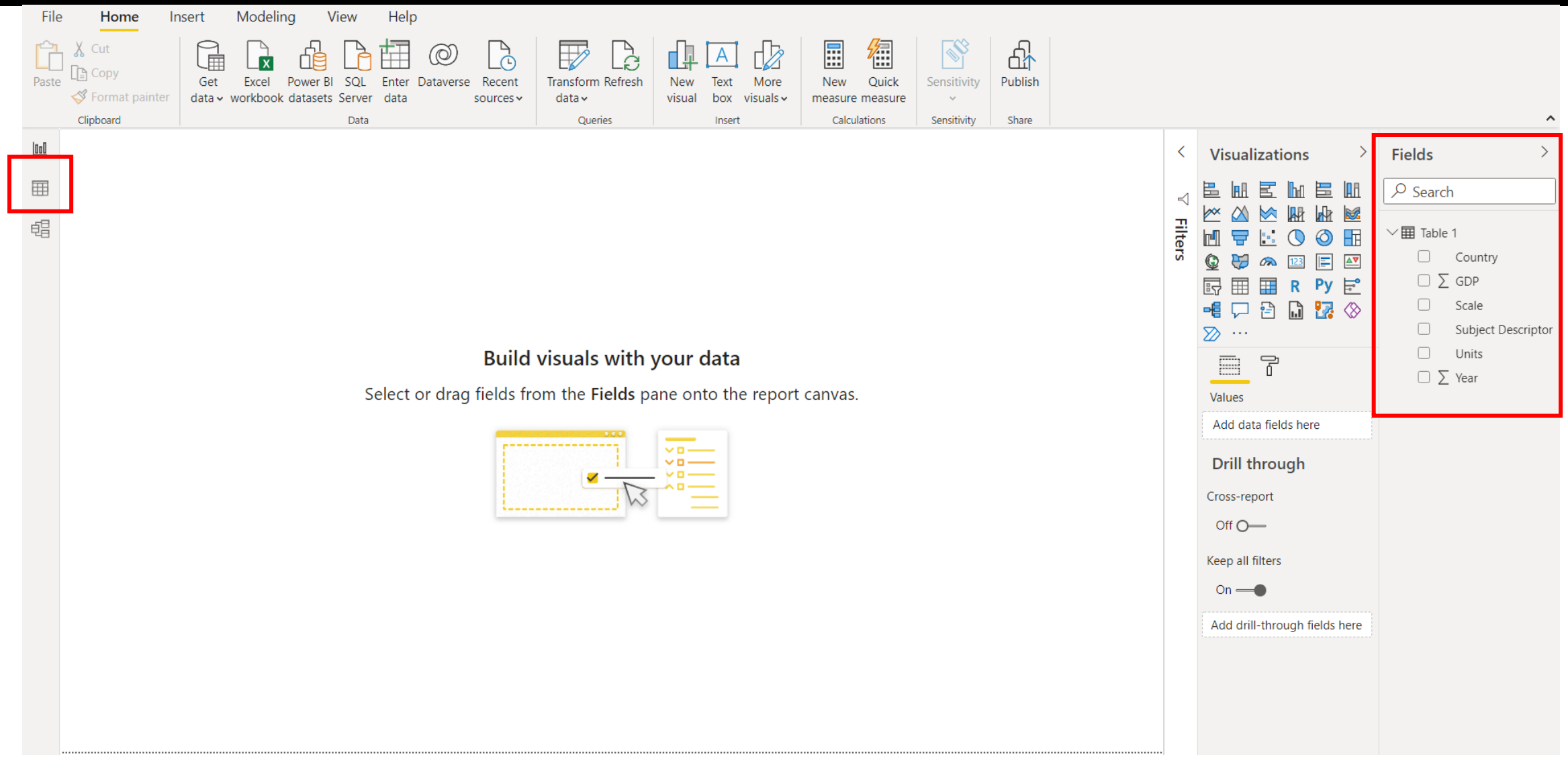
```
= Table.TransformColumnTypes(#"Extracted Table From Html",{{"Column1", type text}, {"Column2", type text},
```

	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

```
= Table.TransformColumnTypes(#"Changed Type with Locale",{{"Year", Int64.Type}})
```

	Country	Subject Descriptor	Units
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

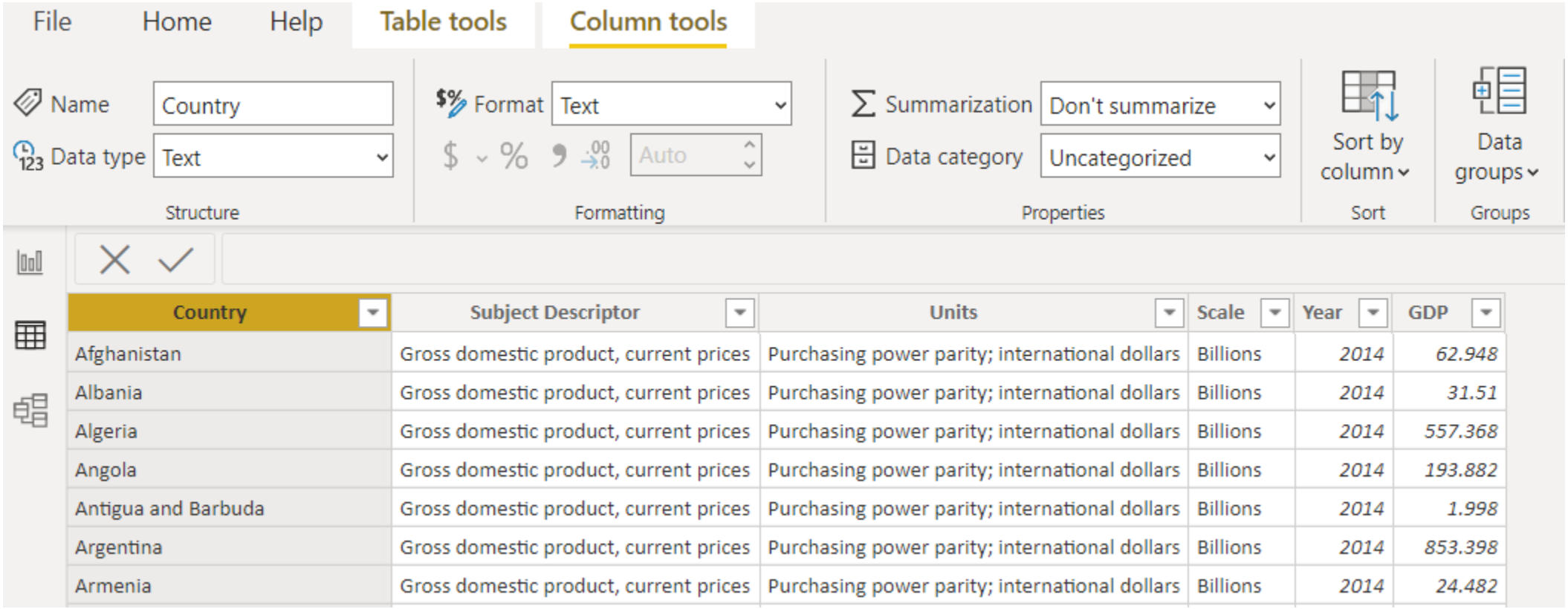


Data view - Vi har till exempel länder I stringformat som kan omvandlas

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

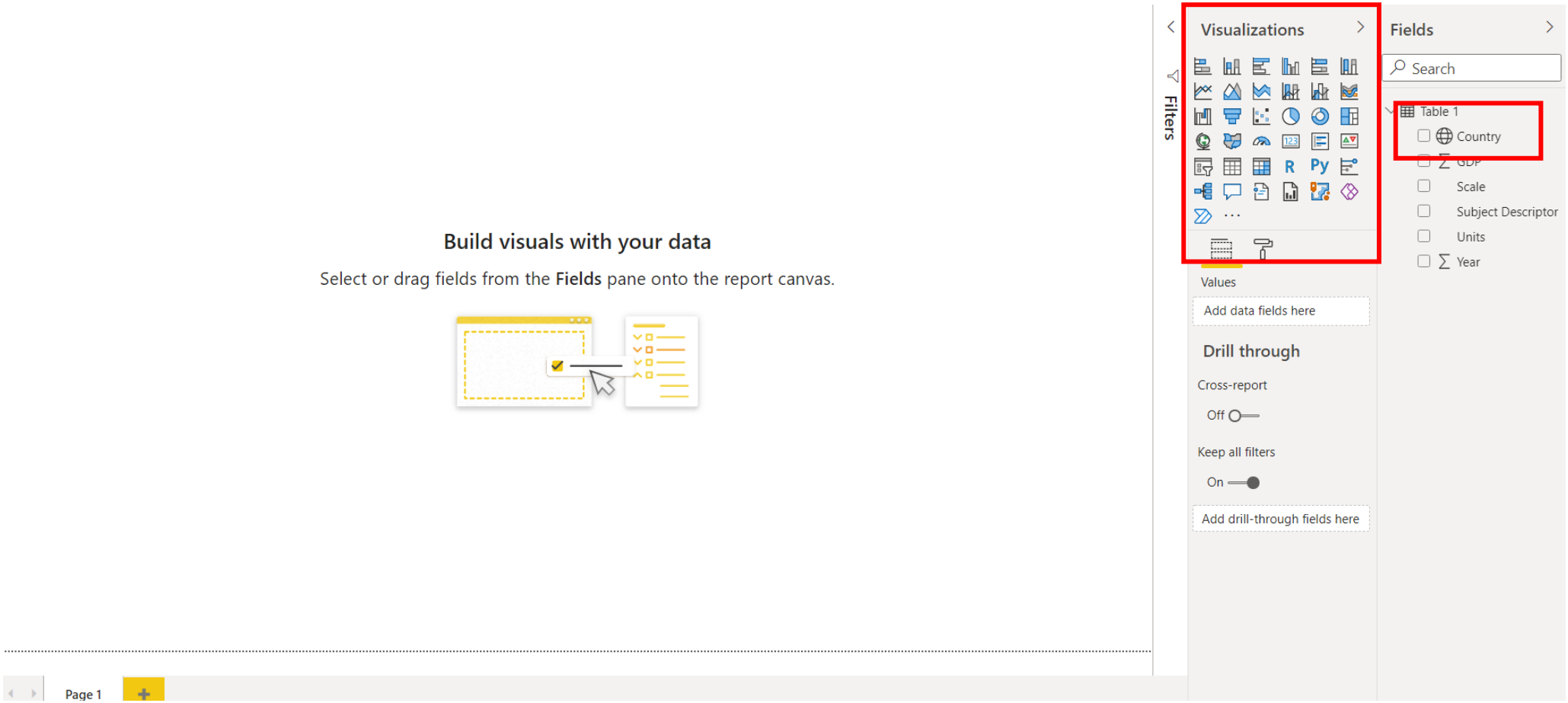
Table: Table 1 (1 541 rows)

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

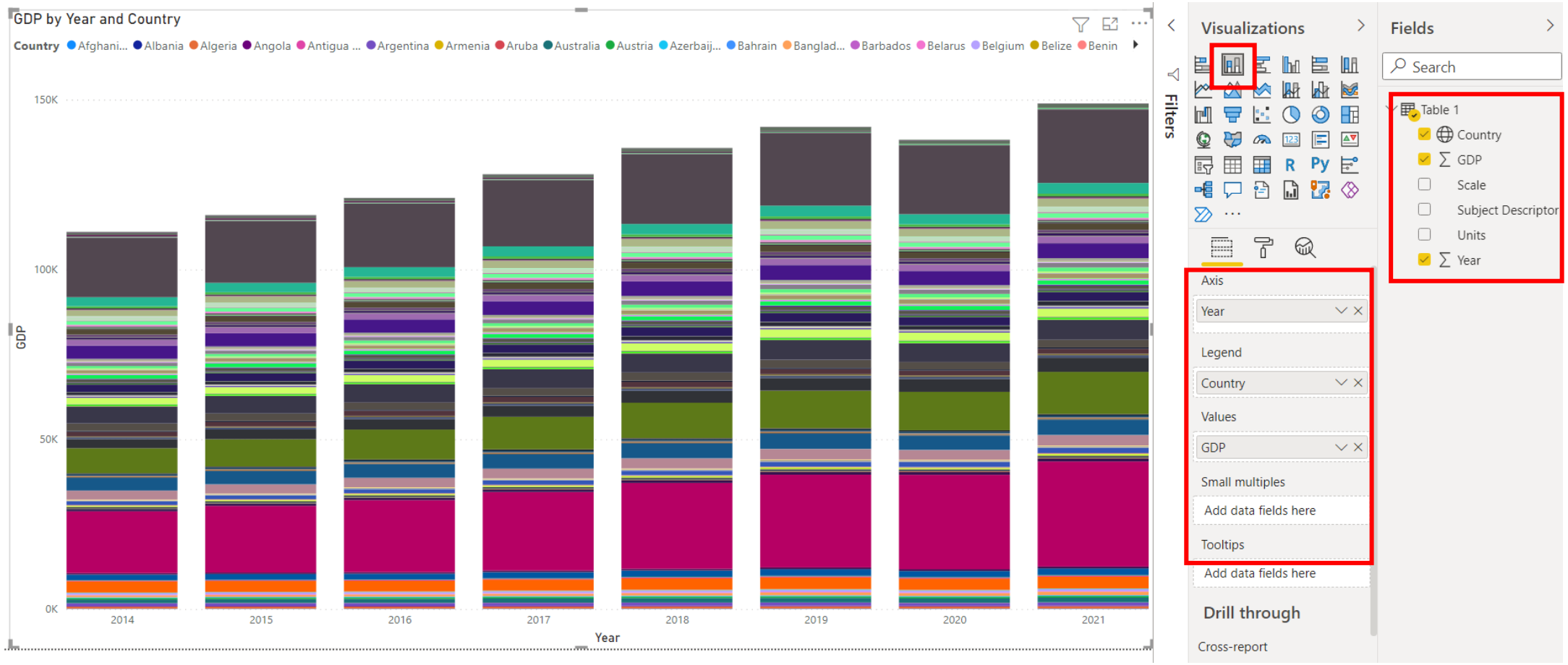


Country	Subject Descriptor	Units	Scale	Year	GDP
Afghanistan	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	62.948
Albania	Gross domestic product, current prices	Purchasing power parity; international dollars	Billions	2014	31.51
Algeria	Gross domestic 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

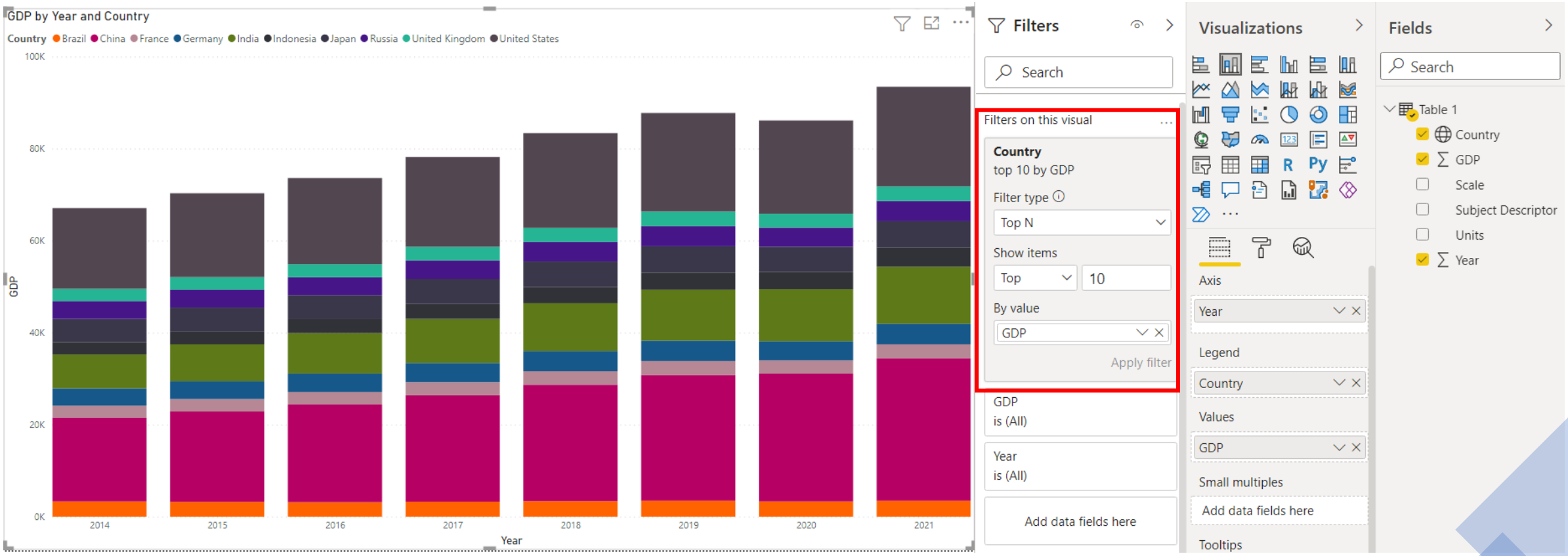
Country ändrat från string till geografisk data, något vi använder i Visualisations



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

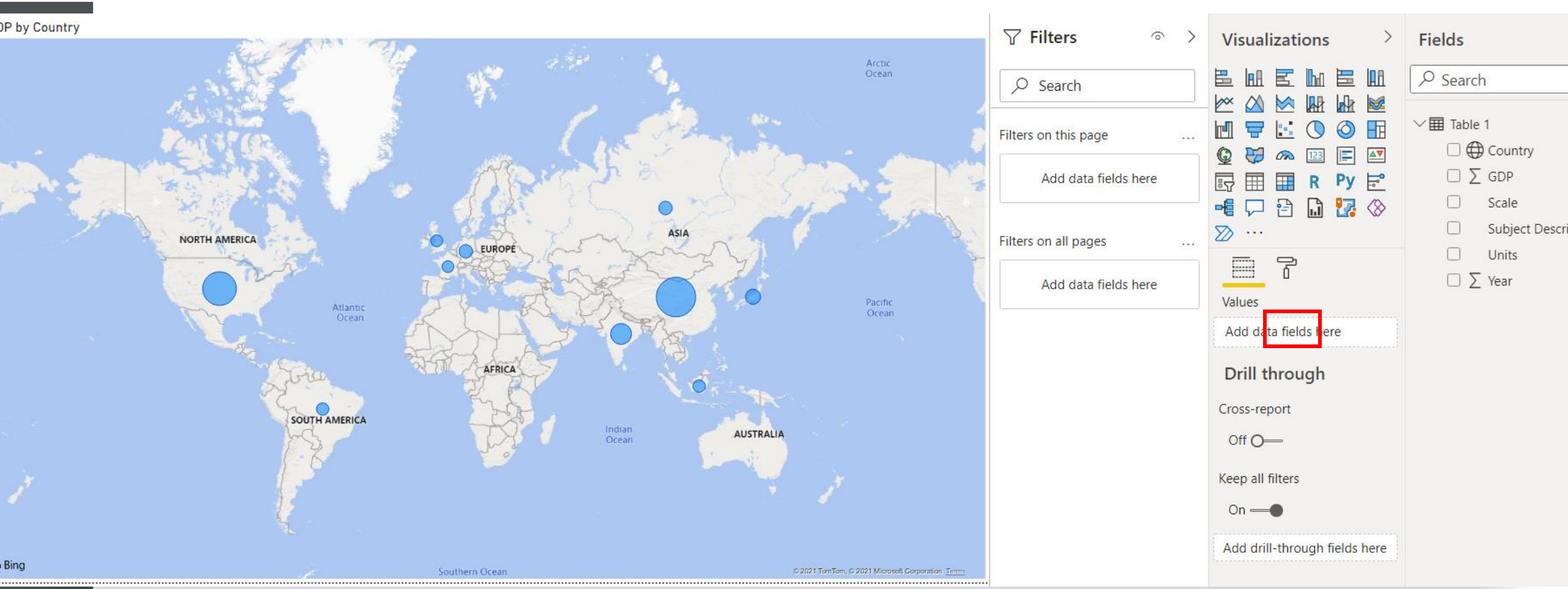


Filtrering på kategori Country, condition GDP

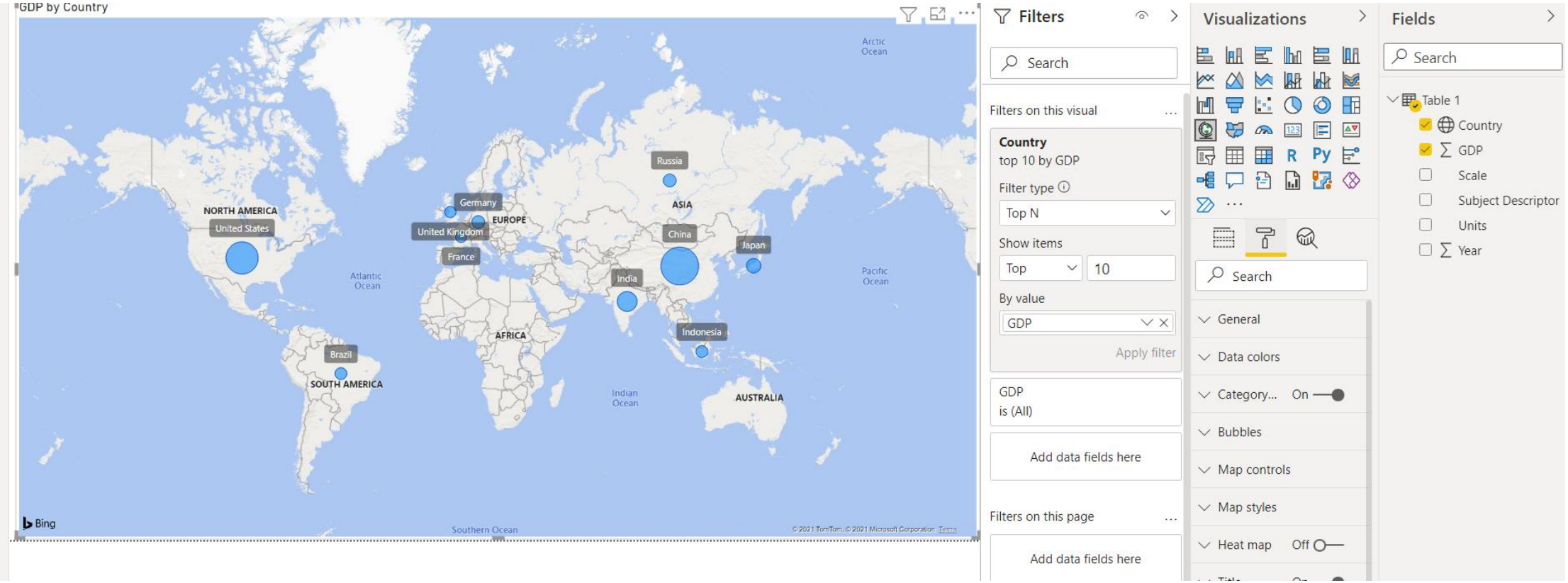


Har vi egentligen dragit någon nytta av vår geografiska data i country än?

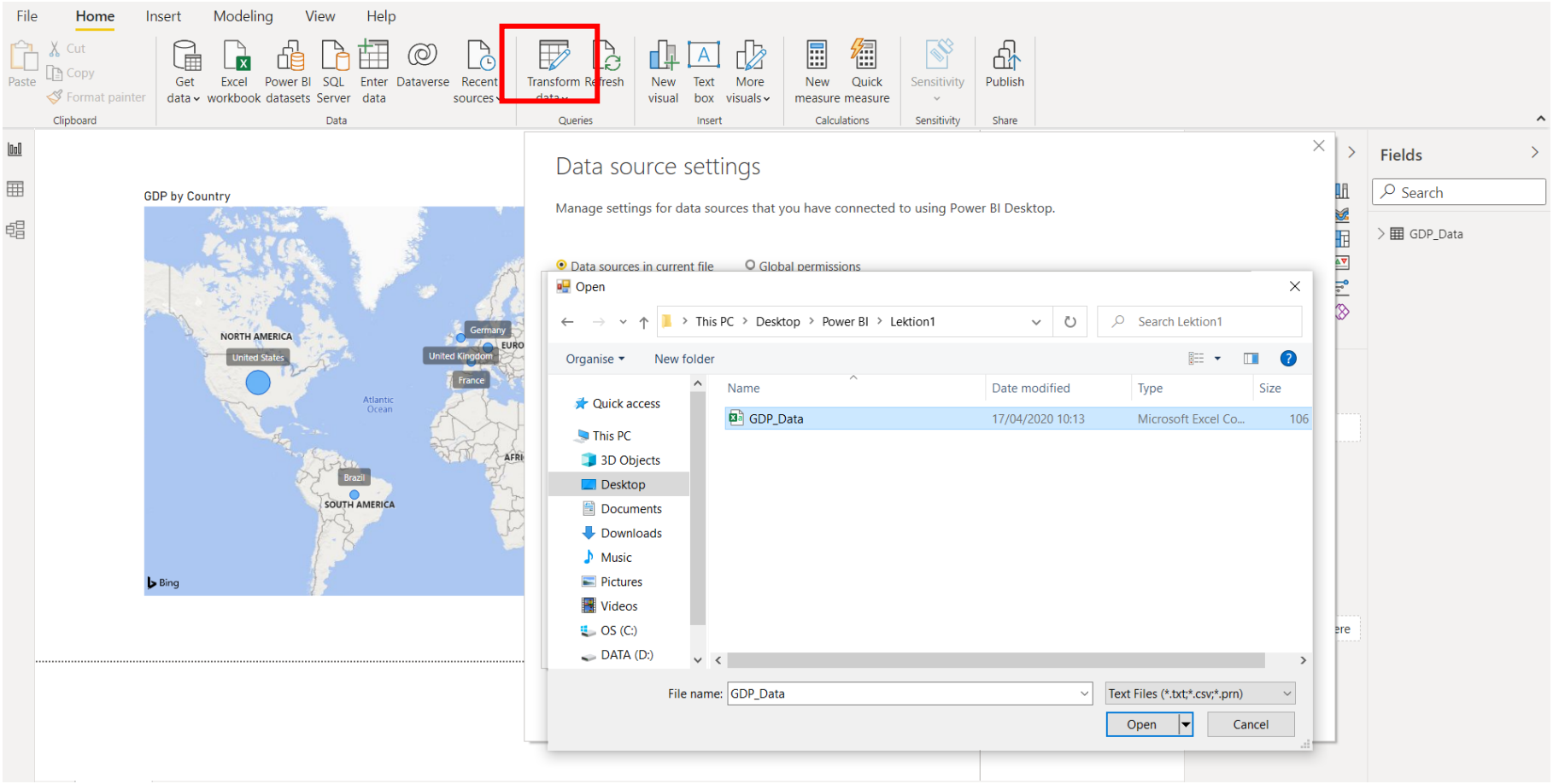
Ändra visualisation till map och plotta geografisk information



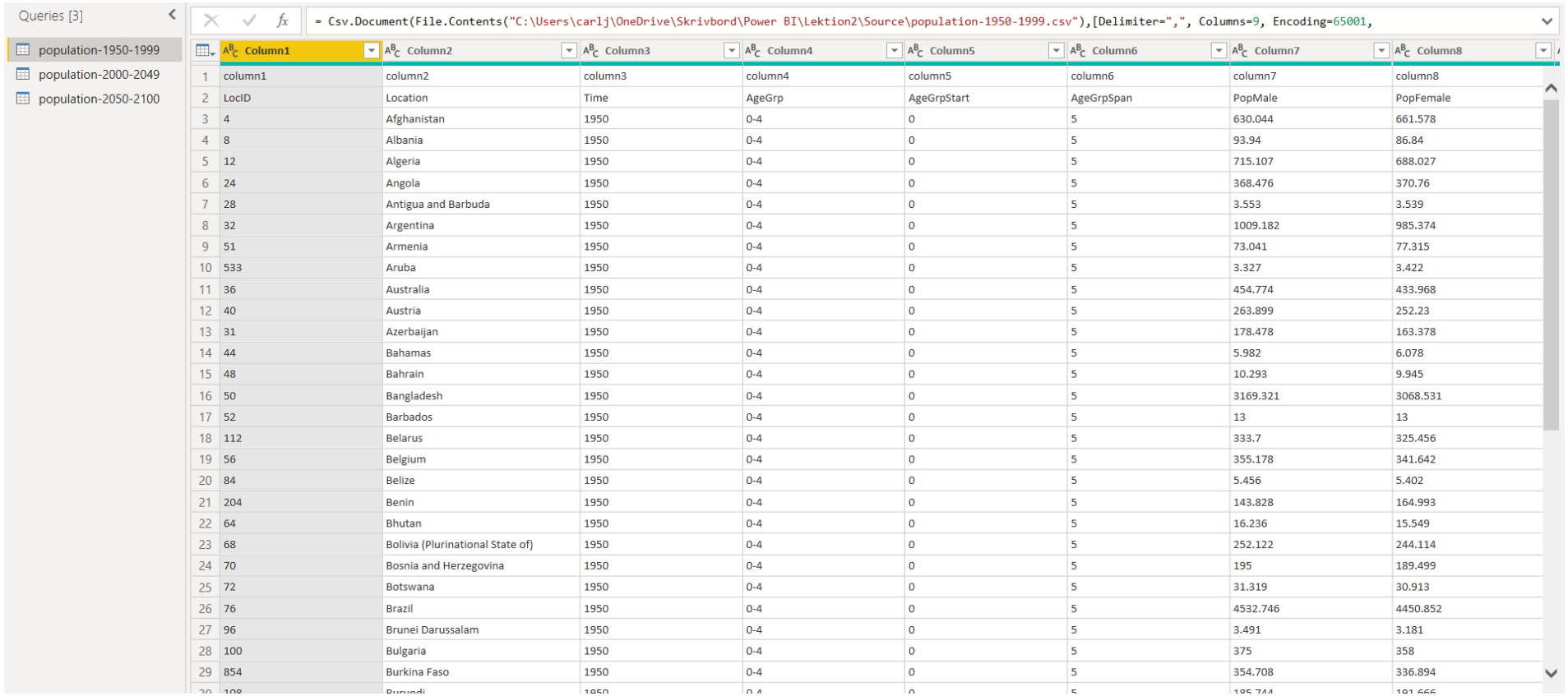
Kan slutligen ta bort kategorifiltret



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



Population och estimerad population



Queries [3]

- population-1950-1999
- population-2000-2049
- population-2050-2100

```
= 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

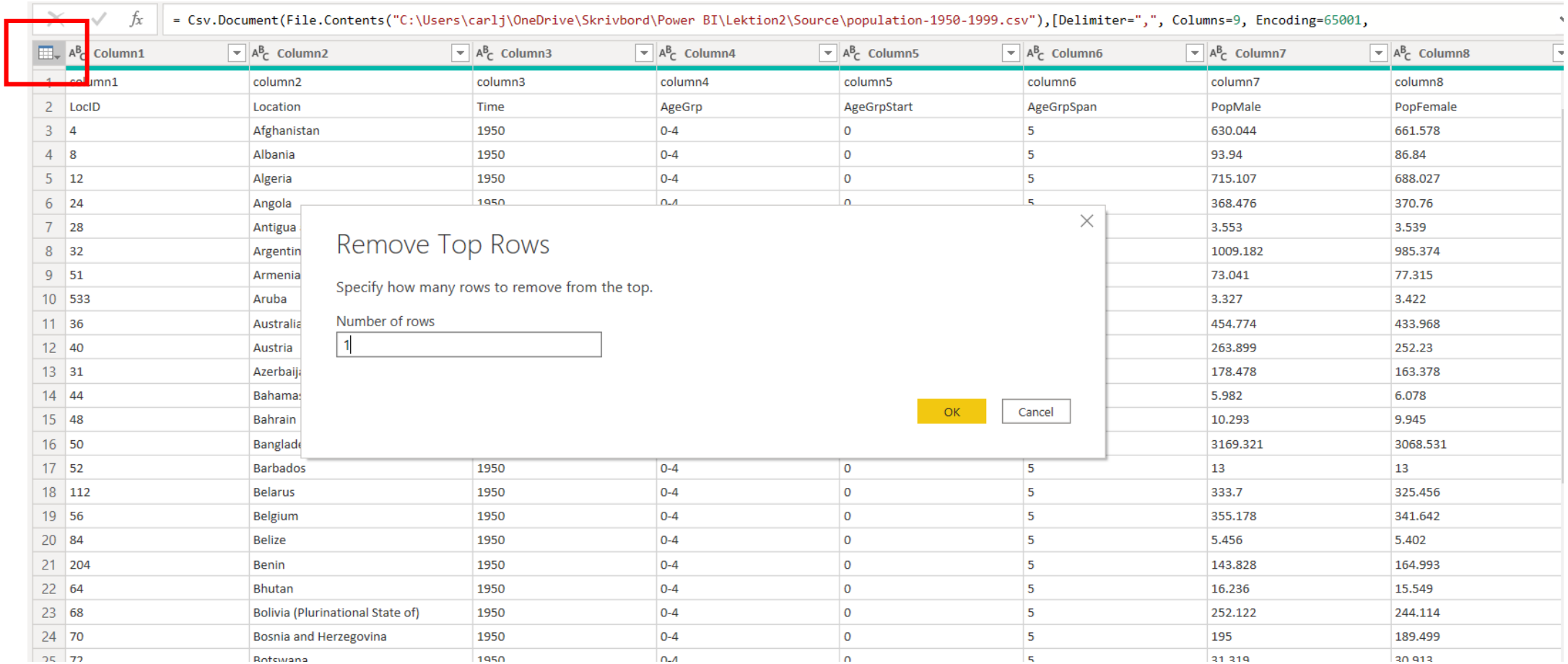
Uppgift

- 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



	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
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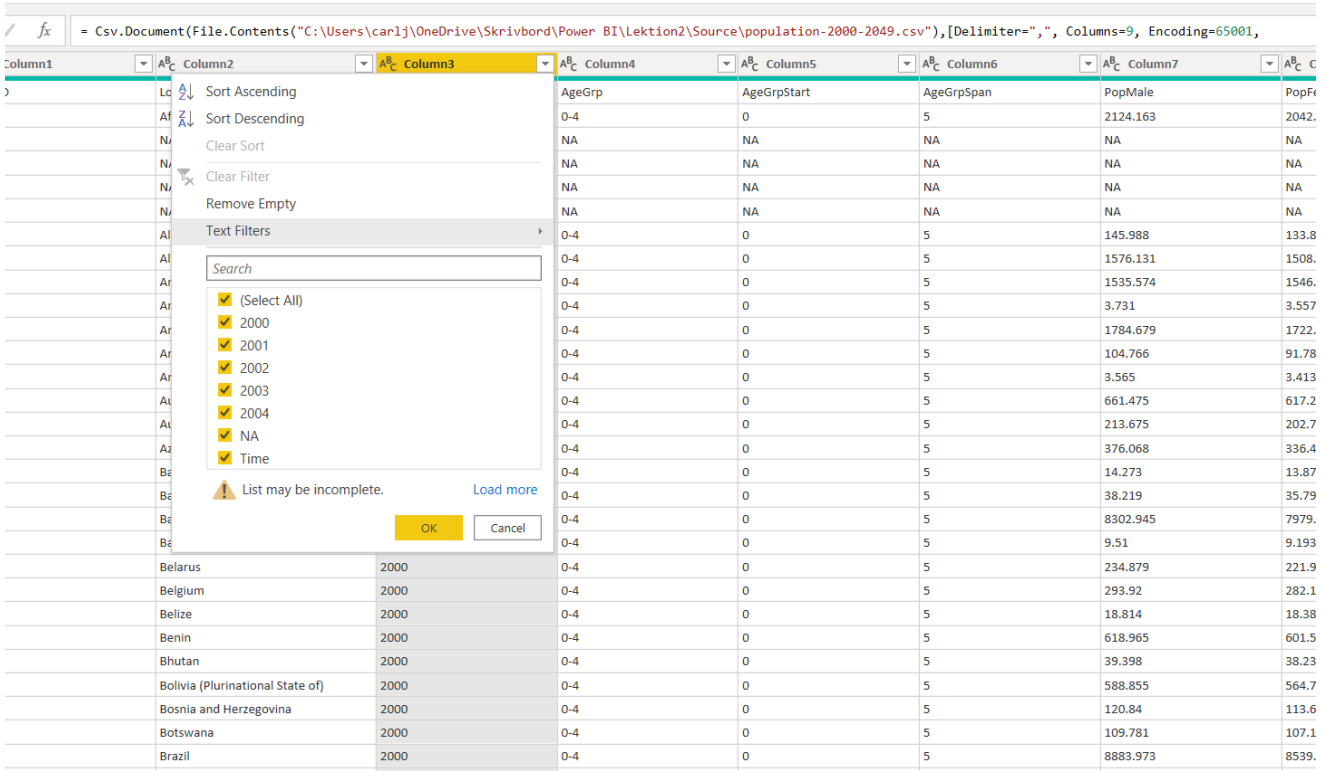
5	12	Algeria	1950	0-4	0	5	715.107	688.027
6	24	Angola	1950	0-4	0	5	368.476	370.76
7	28	Antigua					3.553	3.539
8	32	Argentin					1009.182	985.374
9	51	Armenia					73.041	77.315
10	533	Aruba					3.327	3.422
11	36	Australia					454.774	433.968
12	40	Austria					263.899	252.23
13	31	Azerbaij					178.478	163.378
14	44	Bahama					5.982	6.078
15	48	Bahrain					10.293	9.945
16	50	Banglad					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

Filtrera NA-värden



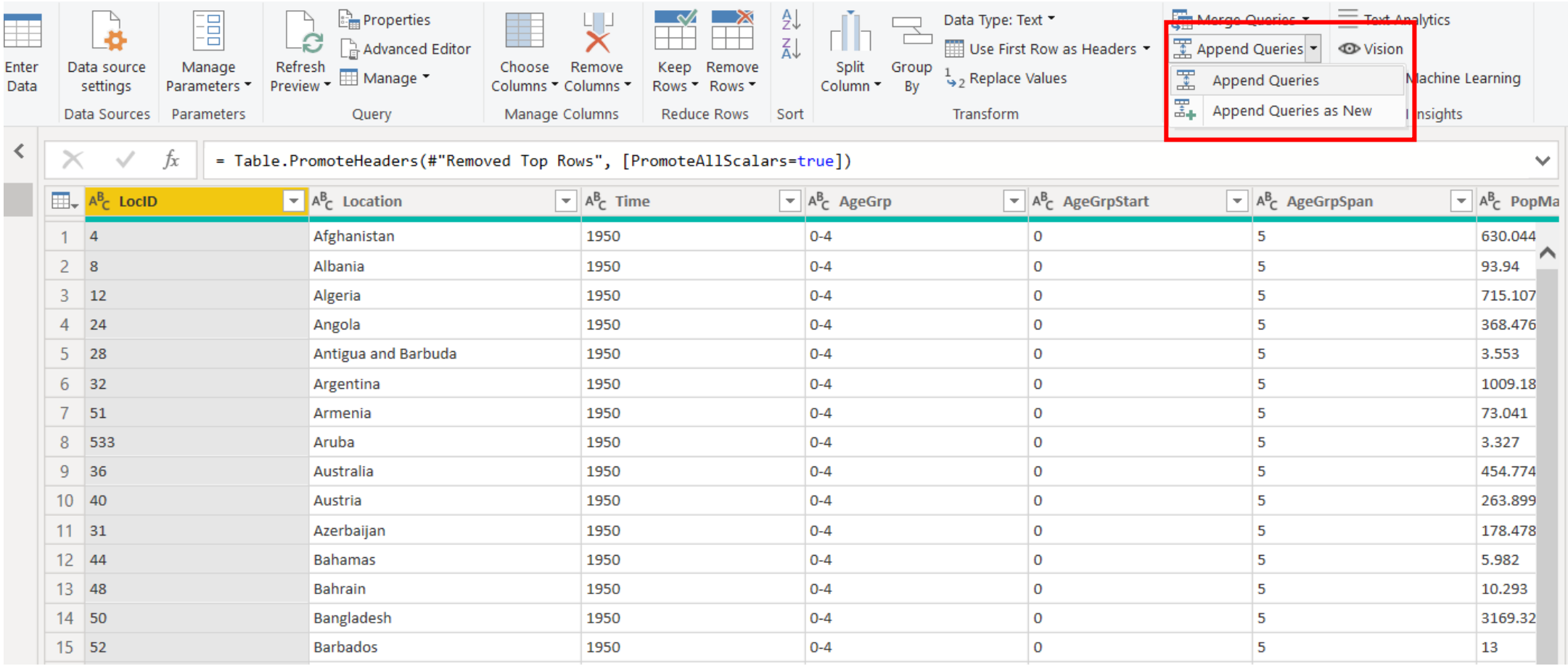
Appenda queries

Måste ha samma typer av kolumner

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

Skiljer mellan append och append as New

Append query

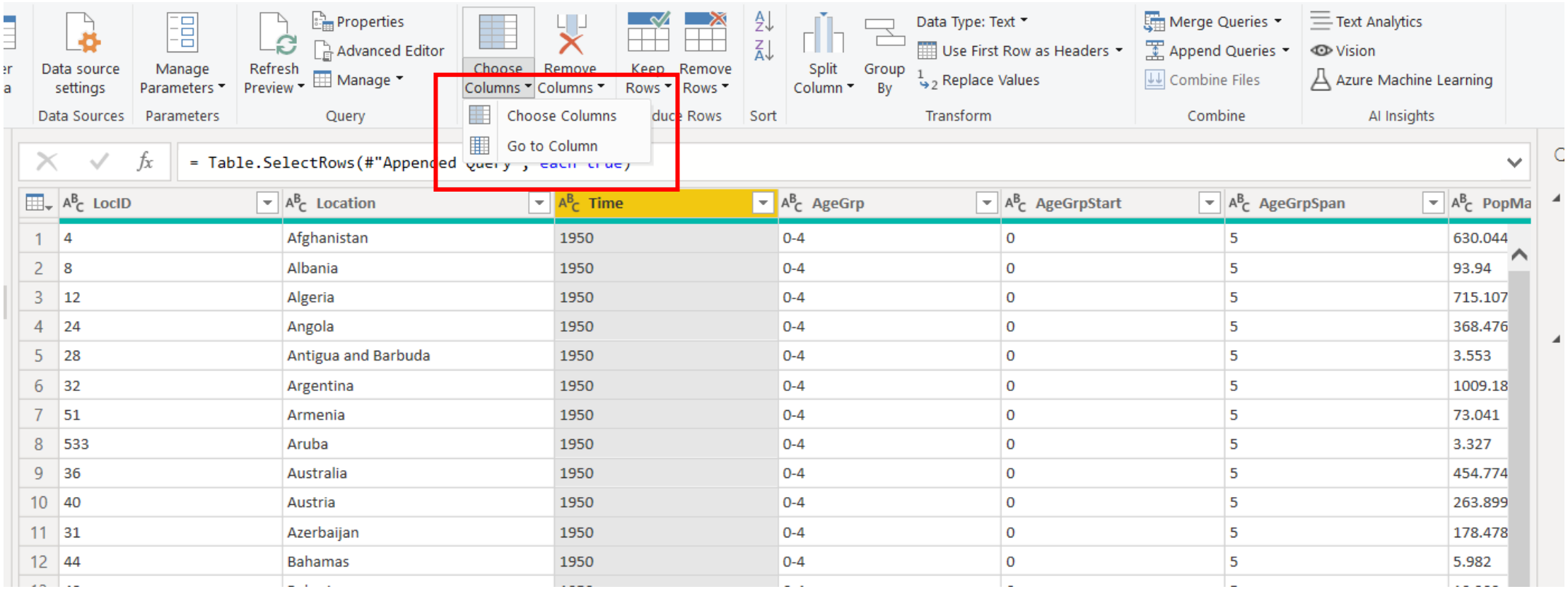


	LocID	Location	Time	AgeGrp	AgeGrpStart	AgeGrpSpan	PopMa
1	4	Afghanistan	1950	0-4	0	5	630.044
2	8	Albania	1950	0-4	0	5	93.94
3	12	Algeria	1950	0-4	0	5	715.107
4	24	Angola	1950	0-4	0	5	368.476
5	28	Antigua and Barbuda	1950	0-4	0	5	3.553
6	32	Argentina	1950	0-4	0	5	1009.18
7	51	Armenia	1950	0-4	0	5	73.041
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
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

Appenda 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



	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