Data Stewardship – Assignment 1:

Part 1 - data science use case

Experiment overview

Given to the huge amount of data available, I picked a topic first and then looked for some data then. I focused on financial data and found some interesting numbers and will look deeper into it. The goal is to visualize the data and find some dependencies between the data sets afterwards. Later, if not satisfied, we can add more data to our experiment.

- Net international investment position - quarterly data, % of GDP
  - https://data.europa.eu/euodp/en/data/dataset/Zaa87C9KaW0Oc7V1BeXRA
- Portfolio investment - quarterly data, million units of national currency
  - https://data.europa.eu/euodp/en/data/dataset/XPGtzRQI1bar3IO50yMYGg
- Direct investment - quarterly data, million units of national currency
  - https://data.europa.eu/euodp/en/data/dataset/Yu9NbJr3KNmCNuAcrrzWFQ
- General government gross debt (EDP concept), consolidated - quarterly data
  - https://data.europa.eu/euodp/en/data/dataset/uEVcriXpO2FOSnwlSkt4Q

First I download the data an import into a Microsoft SQL Server to do further transformations. This will result in 4 tables.

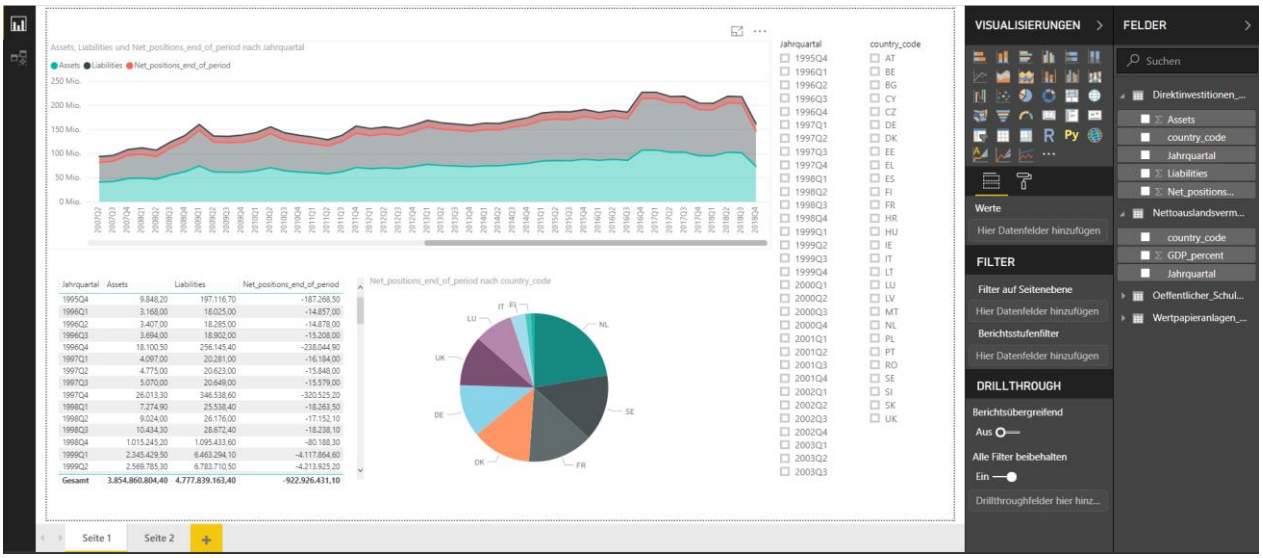
Imported data:

	currency,bop_item,sector10,sectpart,stk_flow,partner,geo time	1995Q4	1996Q1	1996Q2	1996Q
22	MIO_NAC,FA__D__F,S1,S1,A_LE,WRL_REST,PL	:	:	:	:
23	MIO_NAC,FA__D__F,S1,S1,A_LE,WRL_REST,PT	:	3168.0	3407.0	3694.
24	MIO_NAC,FA__D__F,S1,S1,A_LE,WRL_REST,RO	:	:	:	:
25	MIO_NAC,FA__D__F,S1,S1,A_LE,WRL_REST,SE	:	:	:	:
26	MIO_NAC,FA__D__F,S1,S1,A_LE,WRL_REST,SI	658.2	:	:	:
27	MIO_NAC,FA__D__F,S1,S1,A_LE,WRL_REST,SK	:	:	:	:
28	MIO_NAC,FA__D__F,S1,S1,A_LE,WRL_REST,UK	:	:	:	:
29	MIO_NAC,FA__D__F,S1,S1,L_LE,WRL_REST,AT	:	:	:	:
30	MIO_NAC,FA__D__F,S1,S1,L_LE,WRL_REST,BE	:	:	:	:
31	MIO_NAC,FA__D__F,S1,S1,L_LE,WRL_REST,BG	:	:	:	:
32	MIO_NAC,FA__D__F,S1,S1,L_LE,WRL_REST,CY	:	:	:	:

Transformed data:

	Jahrquartal	country_code	Net_positions_end_of_period	Assets	Liabilities
10	1998Q1	AT	NULL	NULL	NULL
11	1998Q2	AT	NULL	NULL	NULL
12	1998Q3	AT	NULL	NULL	NULL
13	1998Q4	AT	NULL	NULL	NULL
14	1999Q1	AT	-3922.00	18678.00	22600.00
15	1999Q2	AT	-4012.00	19266.00	23278.00
16	1999Q3	AT	-3520.00	20023.00	23543.00
17	1999Q4	AT	-3518.00	22679.00	26197.00
18	2000Q1	AT	-3813.00	23257.00	27070.00
19	2000Q2	AT	-2617.00	23897.00	26514.00
20	2000Q3	AT	-1507.00	25983.00	27490.00
21	2000Q4	AT	-5594.00	29773.00	35367.00

After we have transformed the data we can use Microsoft Power BI Desktop to visualize the data. We create a Power BI page for each dataset and use some interactive tools to get an idea of the content.



We can compare the international investments in percent of the GDP and the general government gross debt in percent of the GDP in Austria. (data used from 2005 to now)