

LAB ASSIGNMENT – SPOTFIRE

Master of Data Science (University of Skövde)

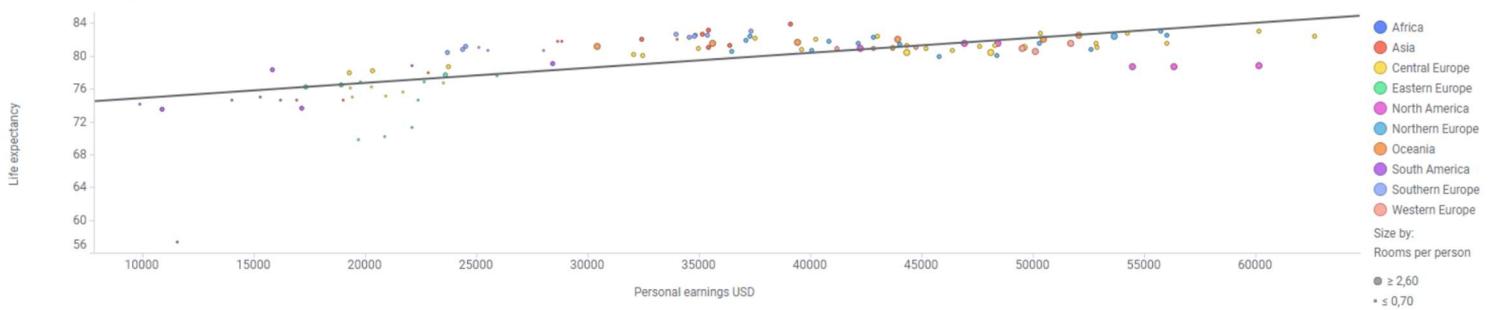
Kim Wurster
a24kimwu

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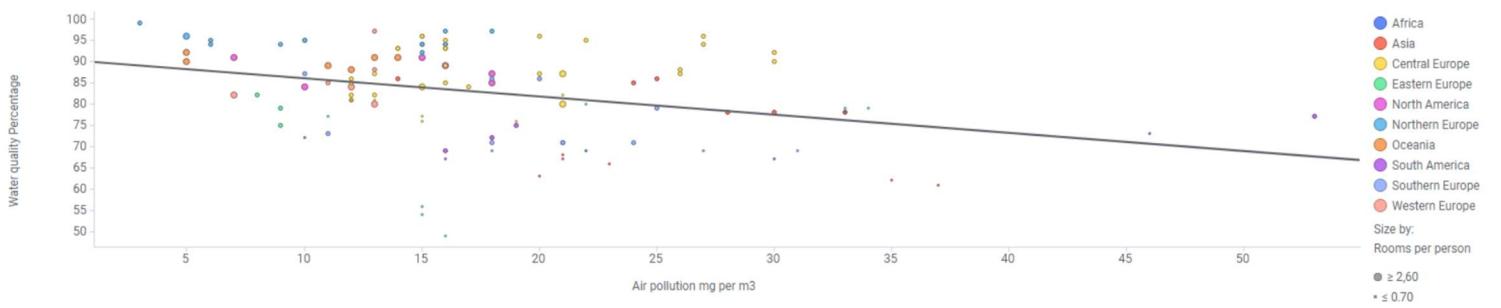
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1. Visualization and Visual Analytics

Life expectancy vs. Personal earnings USD



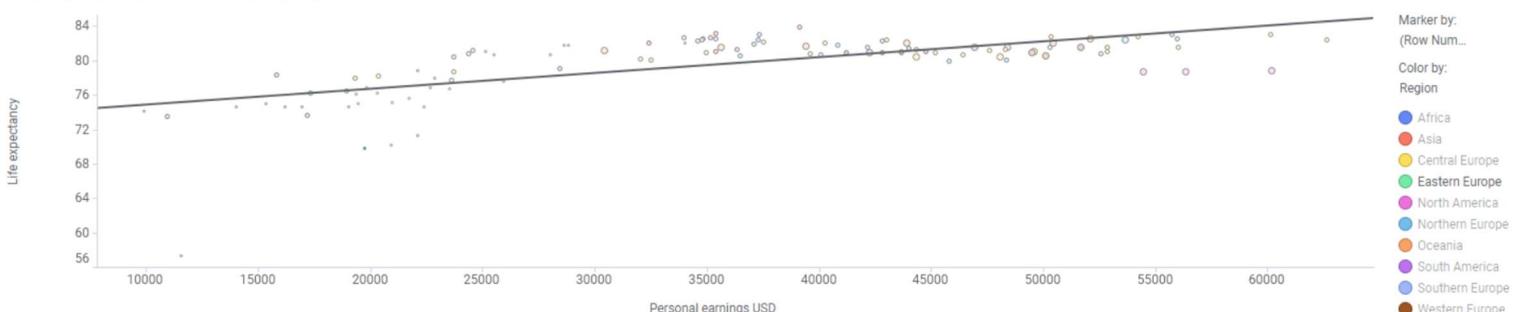
Water quality Percentage vs. Air pollution mg per m3



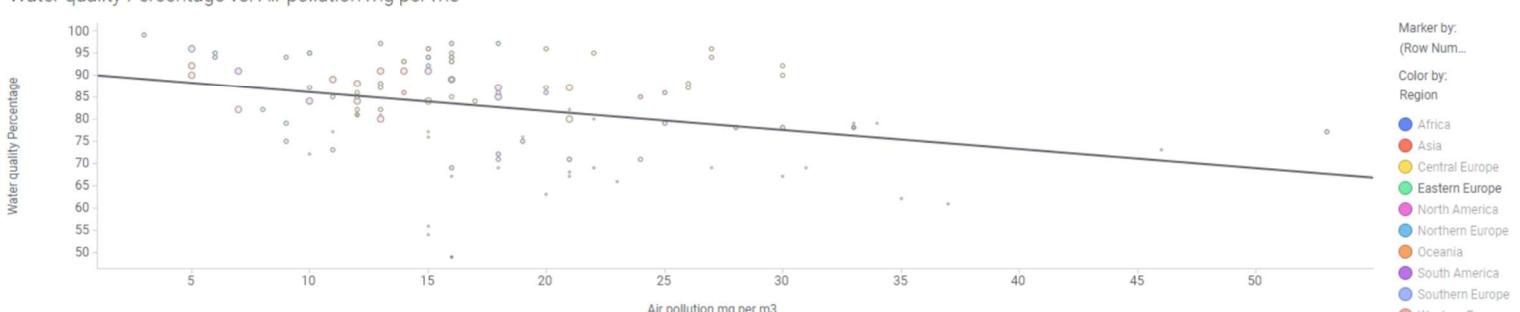
1.1 Brush linking

Mark countries with poor water quality

Life expectancy vs. Personal earnings USD

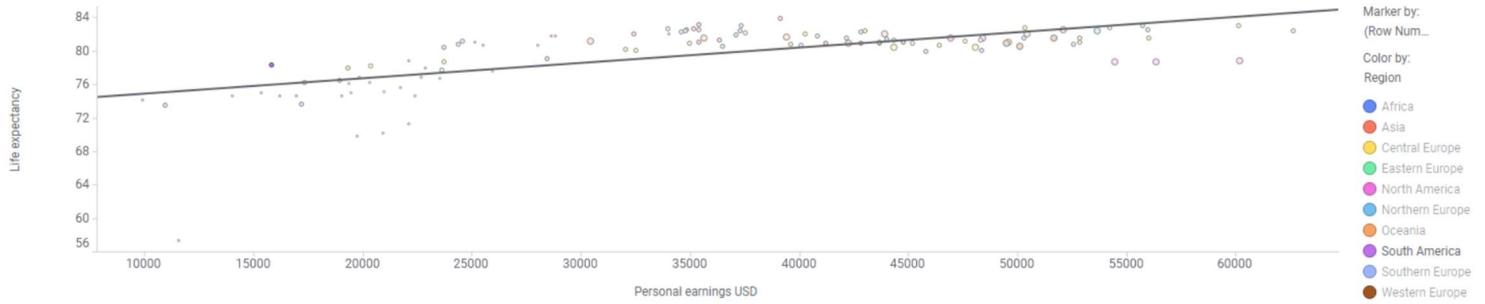


Water quality Percentage vs. Air pollution mg per m3

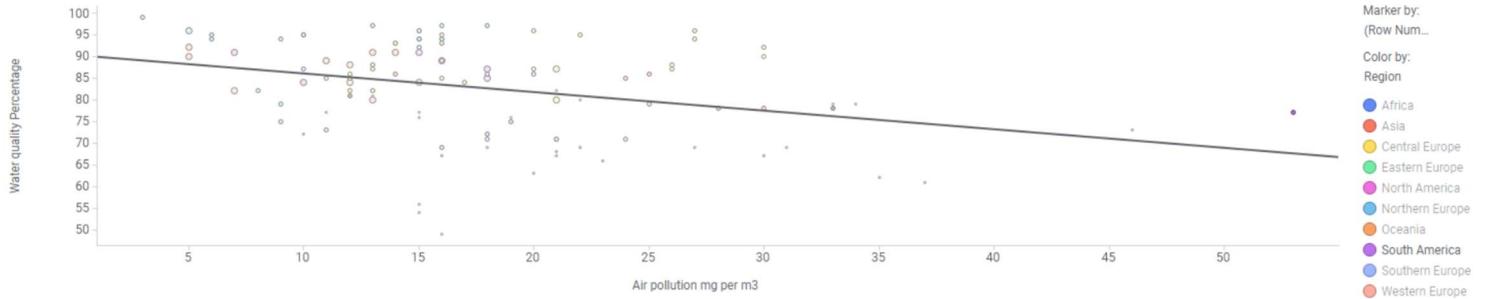


Mark countries with high air pollution

Life expectancy vs. Personal earnings USD

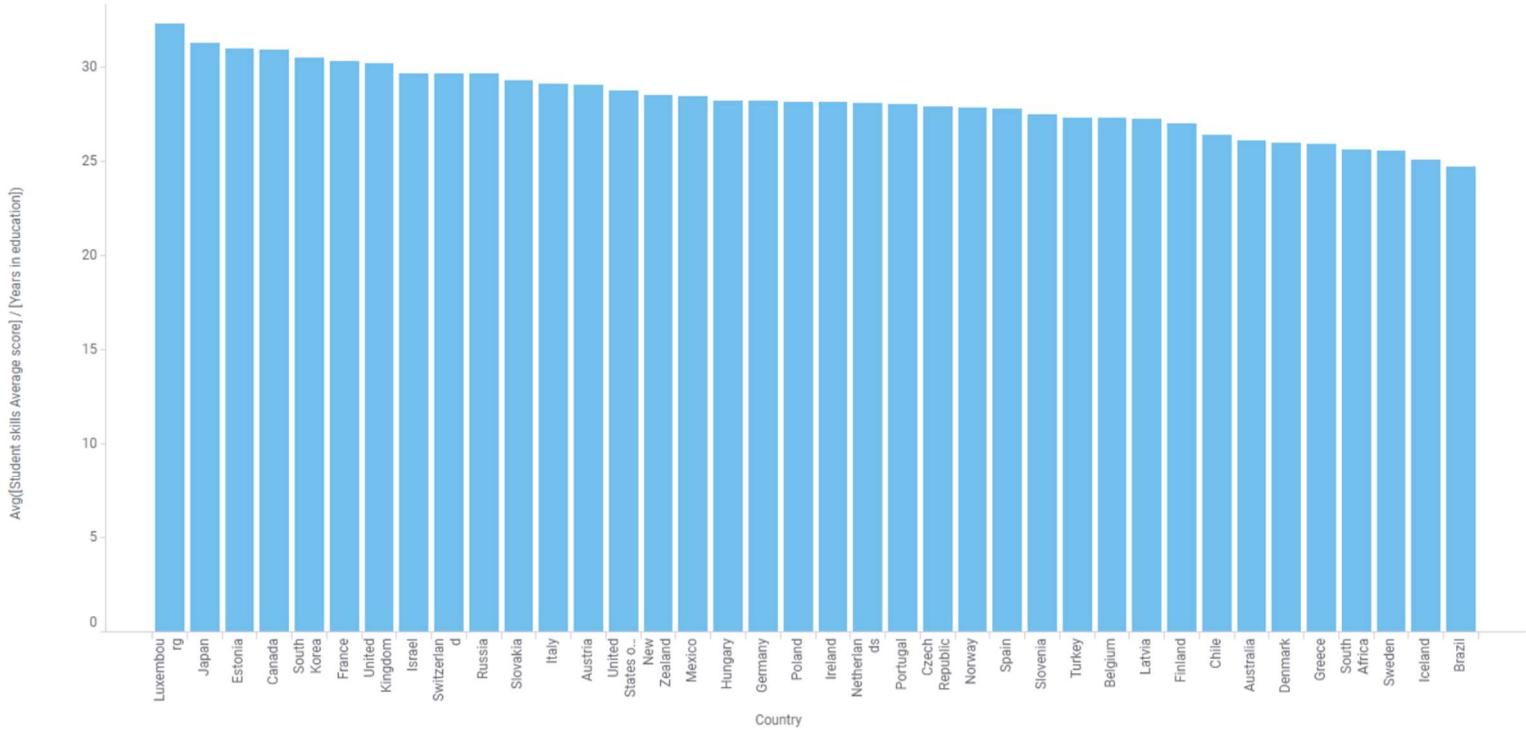


Water quality Percentage vs. Air pollution mg per m3

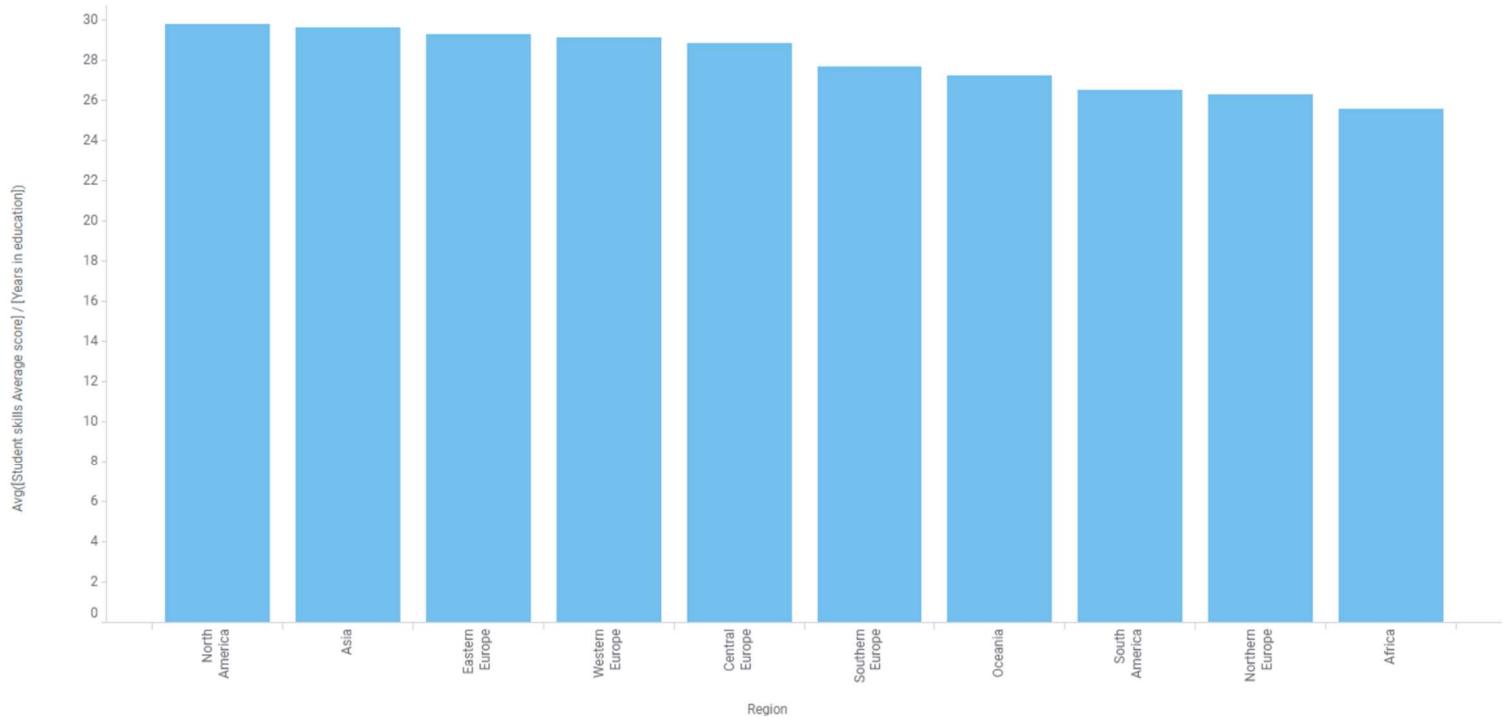


1.2 Using custom expressions to enrich your analysis

Avg([Student skills Average score] / [Years in education]) per Country

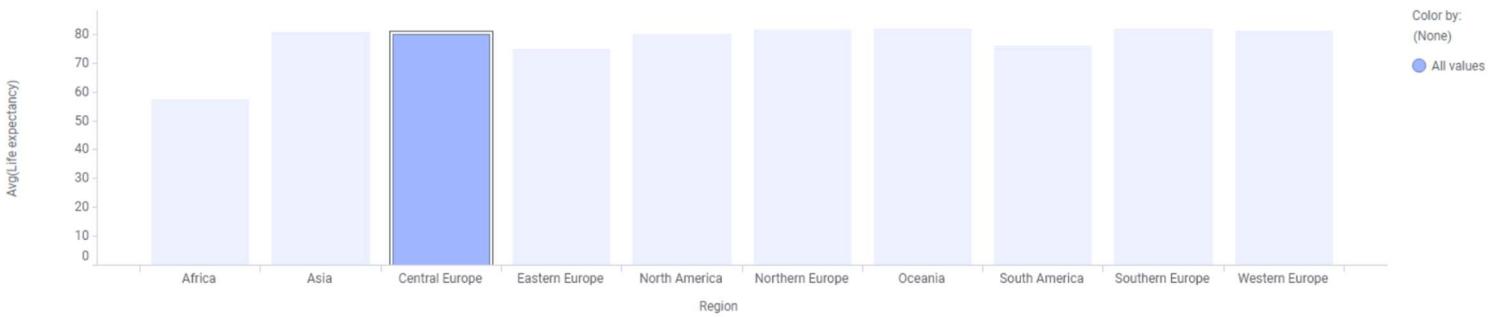


Avg([Student skills Average score] / [Years in education]) per Region

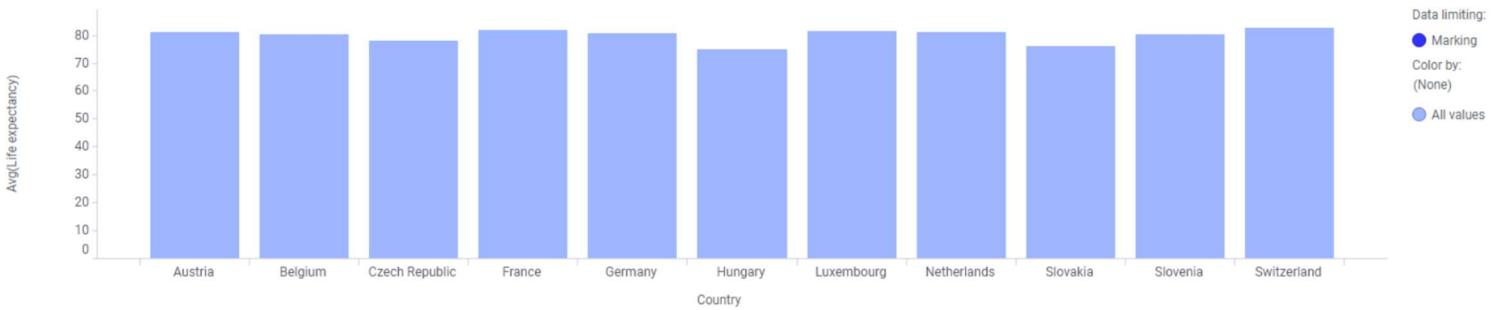


1.3 Master-detail visualization (Drill down)

Life expectancy per Region



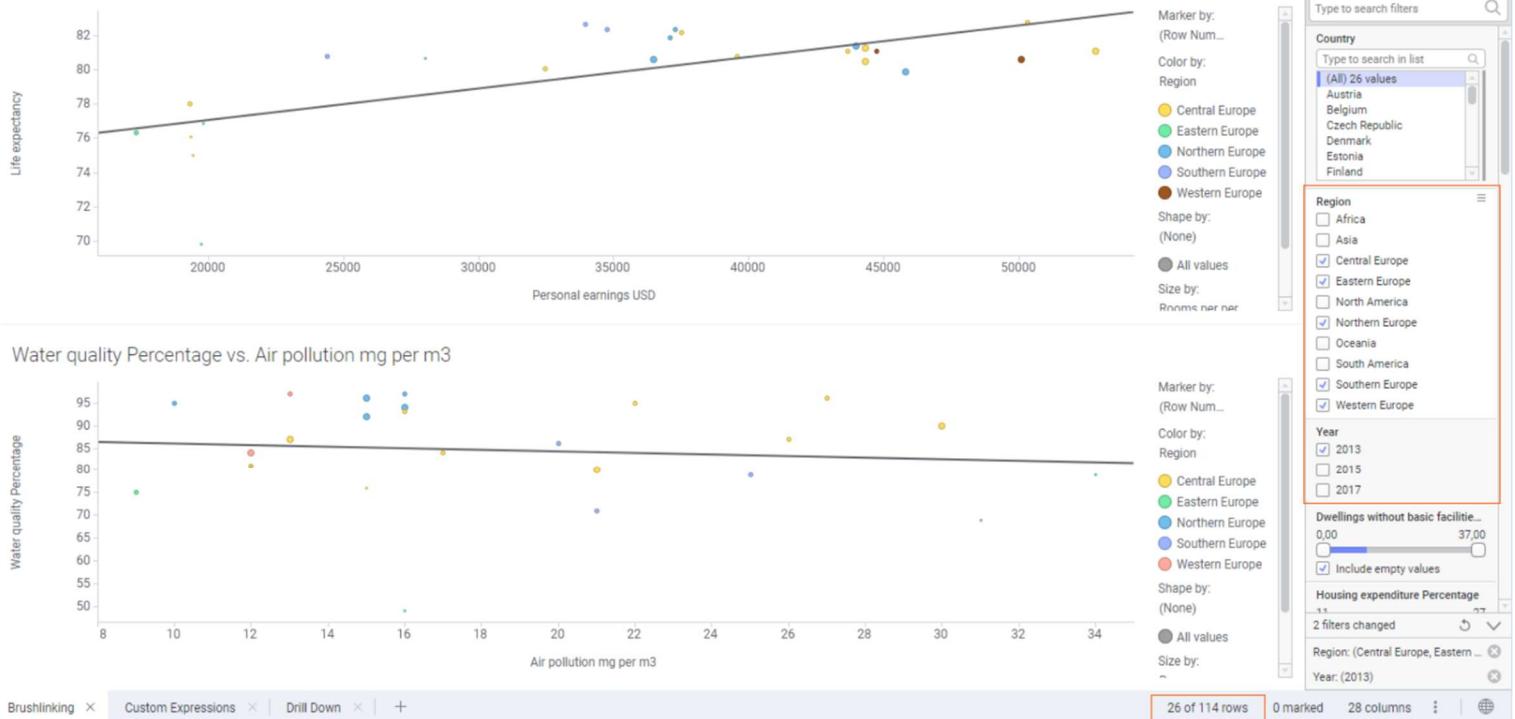
Life expectancy per Country



When on Region is clicked the bar chart, sorted by countries shows the value of all the different countries in this region.

1.4 Filter

Life expectancy vs. Personal earnings USD

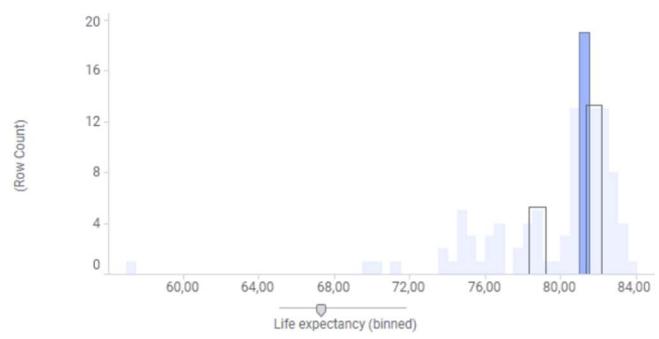


1.5 Histogram

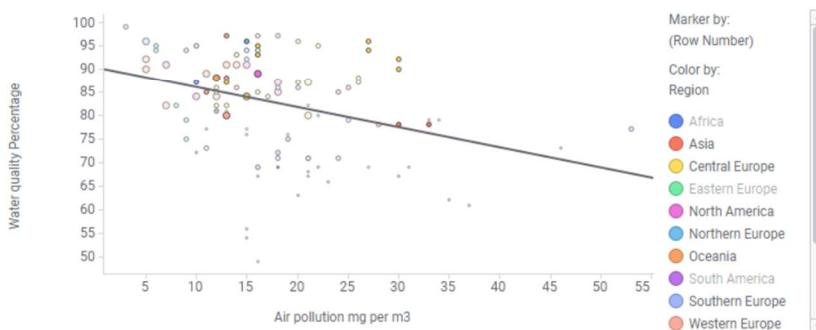
Life expectancy vs. Personal earnings USD



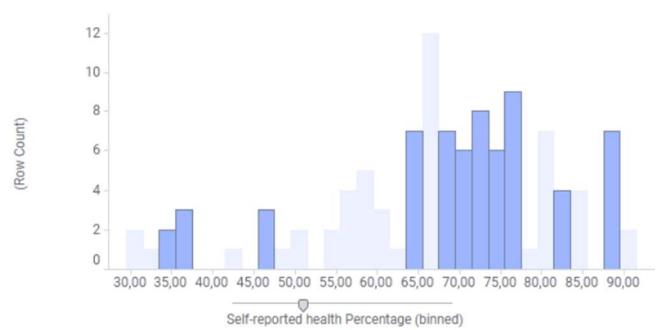
Histogram – Life expectancy



Water quality Percentage vs. Air pollution mg per m3



Histogram – Self-reported health Percentage



When I click on one specific value in the bar chart all the other charts change accordingly as well.

1.6 Trellis

Life satisfaction Average score vs. Self-reported health Percentage

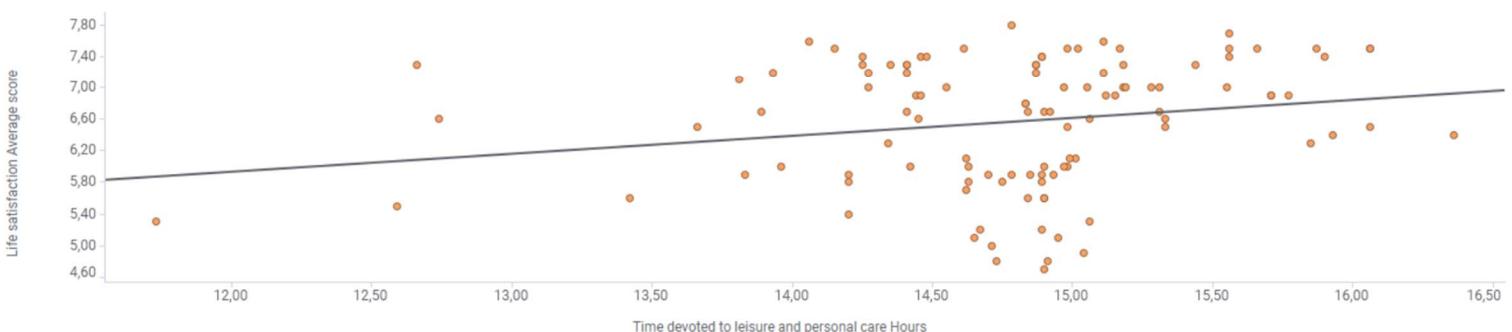


1.7 Advanced Analytics-Data relationships

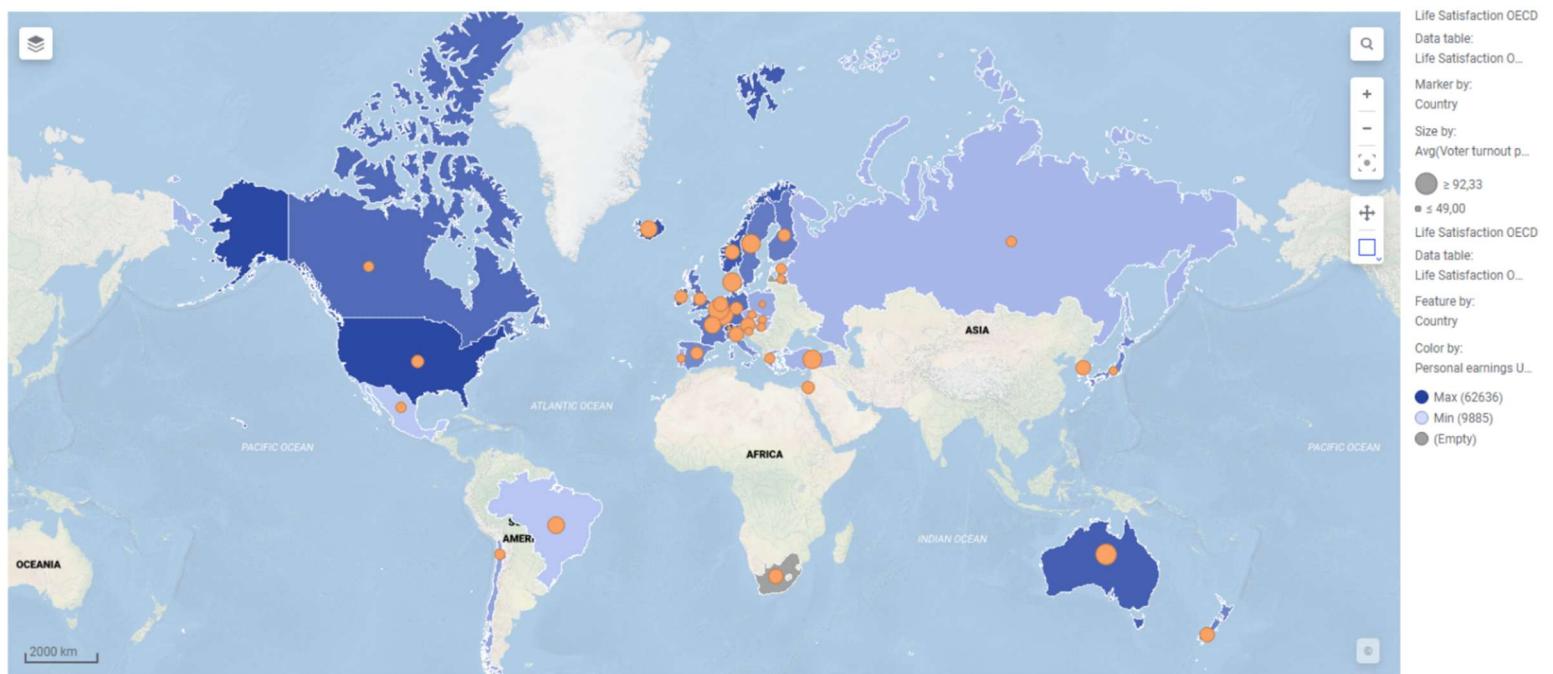
Data Relationships (Linear Regression)

Y (numerical)	X (numerical)	p-value ▲	FStat	RSq▼	R	Df	n
Life satisfacti...	Quality of sup...	6,82E-010	45,89	0,30	0,55	108	110
Life satisfacti...	Dwellings with...	1,16E-006	26,56	0,20	-0,44	108	110
Life satisfacti...	Life expectancy	1,23E-006	26,42	0,20	0,44	108	110
Life satisfacti...	Household net...	2,01E-006	25,24	0,19	0,44	108	110
Life satisfacti...	Voter turnout ...	7,86E-005	16,86	0,14	0,37	108	110
Life satisfacti...	Feeling safe w...	1,91E-004	17,27	0,32	0,57	36	38
Life satisfacti...	Years in educ...	4,19E-003	8,56	0,07	0,27	108	110
Life satisfacti...	Air pollution m...	5,81E-003	7,92	0,07	-0,26	108	110
Life satisfacti...	Educational at...	1,90E-002	5,67	0,05	0,22	108	110
Life satisfacti...	Time devoted ...	3,22E-002	4,71	0,04	0,20	108	110
Life satisfacti...	Student skills ...	4,19E-002	4,24	0,04	0,19	108	110
Life satisfacti...	Employees wo...	7,89E-002	3,15	0,03	-0,17	108	110
Life satisfacti...	Consultation o...	1,56E-001	2,06	0,03	0,17	70	72
Life satisfacti...	Housing expen...	2,30E-001	1,46	0,01	0,12	108	110

Data Relationships (Details)

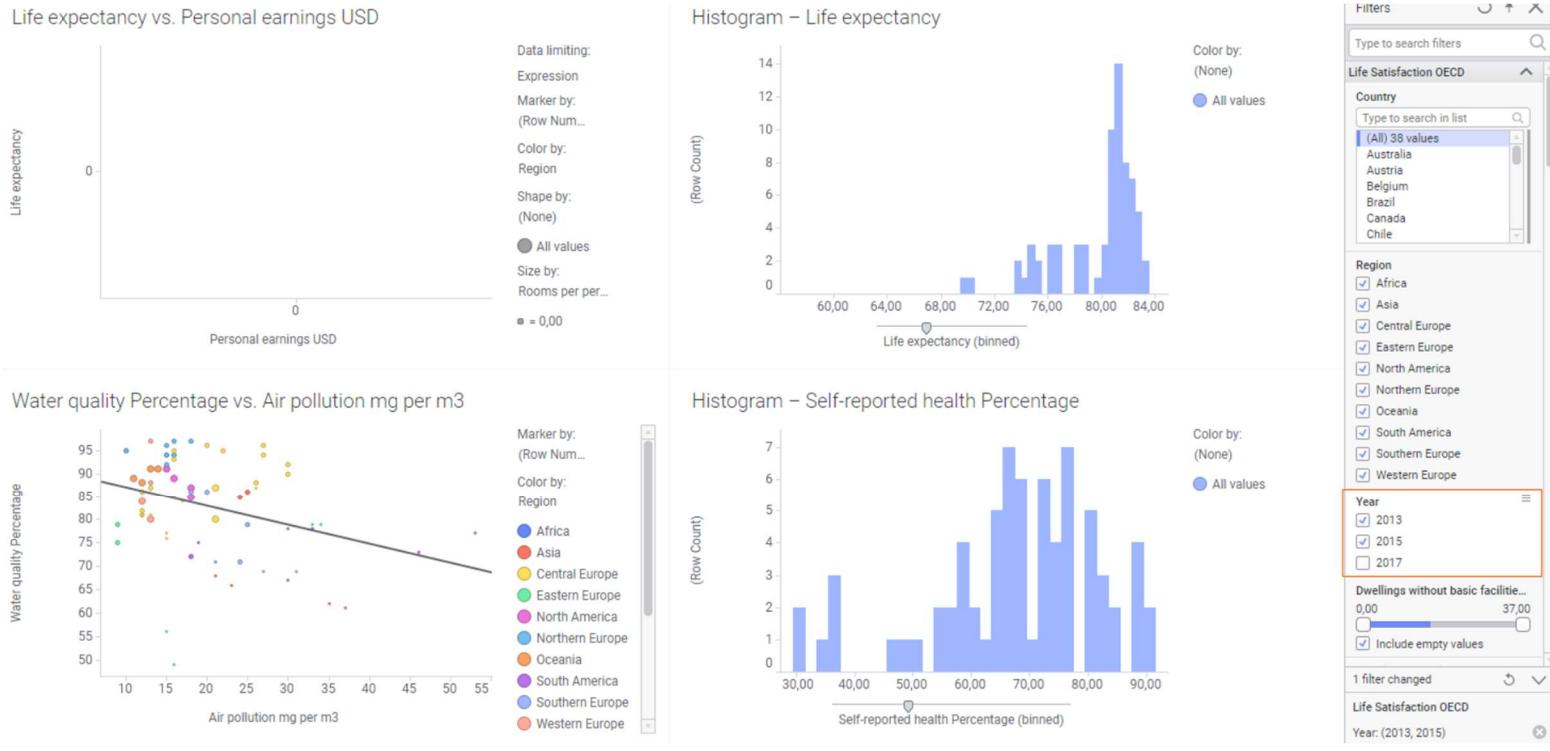


2. GeoAnalytics using the Map chart



3. Dashboarding

3.1 Limit by expression



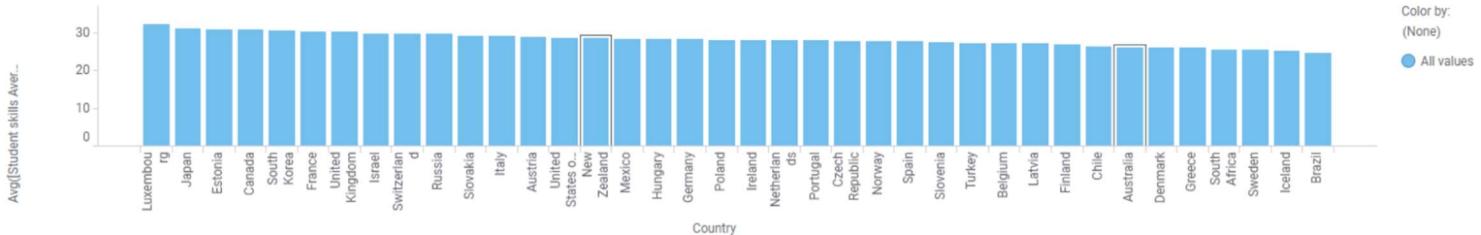
3.2 Text area



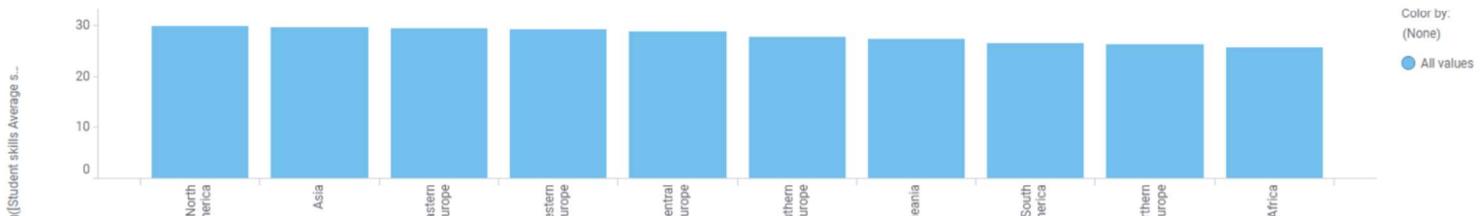
Spotfire - Lab Assignment

[Previous Page \(Scatter Plots\)](#) [Next Page \(Drill Down\)](#)

Avg([Student skills Average score] / [Years in education]) per Country



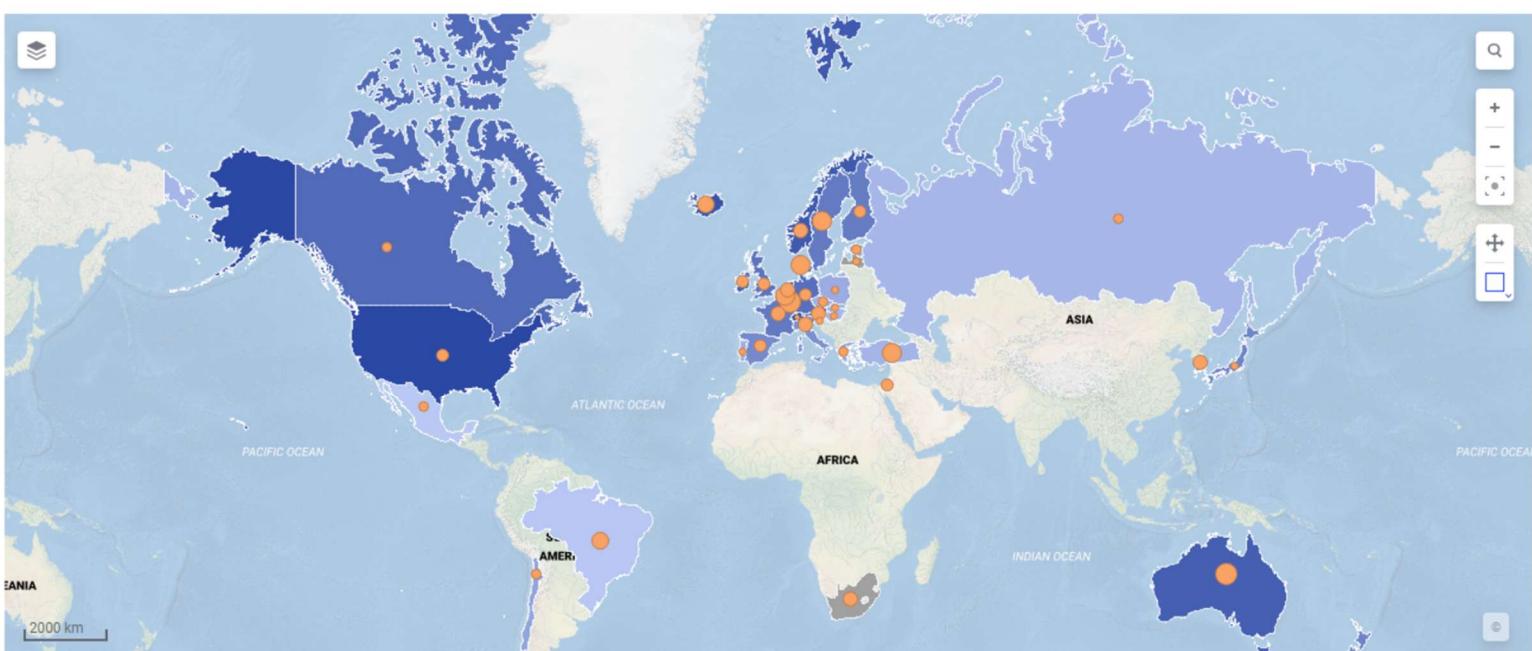
Avg([Student skills Average score] / [Years in education]) per Region



Spotfire - Lab Assignment

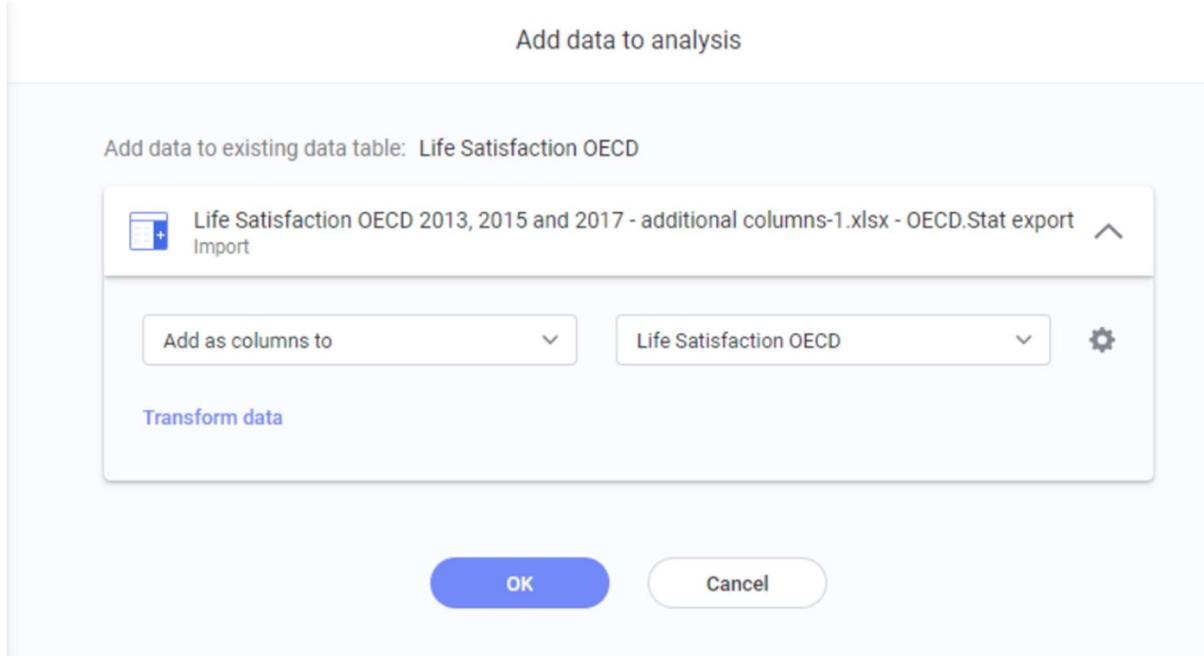
[Previous Page \(Data Relationships\)](#)

Map chart



4. Data Canvas

4.1 Add columns



Match columns
Defined matches: 3

Type to search in list

From original data	From new data
Country (String) Australia, Austria, Belgium	Location (String) Australia, Austria, Belgium
Region (String) Oceania, Central Europe, North A...	Region (String) Oceania, Central Europe, No...
Year (Integer) 2017, 2013, 2015	Year (Integer) 2017, 2013, 2015

+ Add match

Preview of result (sample rows)

Homicide rate	Employees ...	Time devote...	Country	Region	Year	Labour mark...	Long-term u...
Real	Real	Real	String	String	Integer	Real	Real
1.00	13.20	14.35	Australia	Oceania	2017	4.30	1.36
0.40	6.78	14.55	Austria	Central Europe	2017	2.70	1.94
1.00	4.31	15.77	Belgium	Central Europe	2017	4.80	3.98
1.40	3.73	14.41	Canada	North America	2017	3.90	0.81
4.50	10.06	14.90	Chile	South America	2017	8.10	2.02
0.80	5.77	15.06	Czech Repu...	Central Europe	2017	1.80	1.71
0.70	2.20	15.87	Denmark	Northern Eur...	2017	2.30	1.35
3.10	2.69	14.90	Estonia	Eastern Euro...	2017	4.00	2.13
1.40	3.91	15.17	Finland	Northern Eur...	2017	2.70	2.33
0.60	7.76	16.36	France	Central Europe	2017	5.00	4.33
0.40	4.60	15.55	Germany	Central Europe	2017	2.00	1.68
1.00	7.30	14.67	Greece	Southern Eur...	2017	17.40	16.95
1.20	3.05	15.06	Hungary	Central Europe	2017	4.80	2.42
0.90	15.06	14.15	Iceland	Northern Eur...	2017	2.60	0.26
0.60	4.66	15.28	Ireland	Western Eur...	2017	2.10	4.72
1.70	15.04	13.93	Israel	Asia	2017	2.60	0.46
0.80	3.90	14.89	Italy	Southern Eur...	2017	8.10	6.82
0.30	21.81	14.85	Japan	Asia	2017	1.50	1.24
1.10	20.84	14.70	South Korea	Asia	2017	2.40	0.03
6.60	2.09	13.83	Latvia	Eastern Euro...	2017	6.80	3.73
0.60	3.76	15.15	Luxembourg	Central Europe	2017	3.20	1.90
17.90	29.48	12.74	Mexico	South America	2017	4.60	0.08
0.60	0.45	15.90	Netherlands	Central Europe	2017	2.10	2.56
1.30	15.02	14.87	New Zealand	Oceania	2017	4.90	0.72
0.60	3.17	15.56	Norway	Northern Eur...	2017	2.70	0.59

Number of input rows: 1000 Apply

Original data Matched data New data

OK Cancel

Life Satisfaction OECD

Rename Reload Replace Delete Relations (0) Key columns (0)

Life Satisfaction OECD 2013, 2015 and 2017-1-2.xlsx... → Added columns → Life Satisfaction OECD

Life Satisfaction OECD 2013, 2015 and 2017 - addition.xlsx... → Life Satisfaction OECD

Life Satisfaction OECD

The final data table has no further changes.

Country	Region	Year	Dwellings ...	Housing ex...	Rooms per...	Household ...	House...
String	String	Integer	Real	Integer	Real	Integer	Inte...
Australia	Oceania	2017	1.10	20	2.30	33417	1
Austria	Central Eur...	2017	1.00	21	1.60	32544	
Belgium	Central Eur...	2017	2.30	21	2.20	29968	
Canada	North Amer...	2017	0.20	22	2.50	29850	
Chile	South Amer...	2017	9.40	18	1.90	16588	
Czech Rep...	Central Eur...	2017	0.60	24	1.40	21103	
Denmark	Northern E...	2017	0.60	24	1.00	28050	

114 rows 30 columns

4.2 Transforming data

Transform data → Replace value

Replace value

In column: Country
Previous value: United States of America
Replace value with: USA

OK Cancel

Life Satisfaction OECD

This is the data analysis.

is no further changes.

Country	Region	Year	Dwellings ...	Housing ex...
String	String	Integer	Real	Integer

INFORMATION DATA COLUMN PROPERTIES DATA TABLE PROPERTIES

Country	Region	Year	Dwellings ...	Housing ex...	Rooms per...	Household ...
String	String	Integer	Real	Integer	Real	Integer
Sweden	Northern E...	2017	0,00	20	1,80	30553
Switzerland	Central Eur...	2017	0,00	21	1,90	36378
Turkey	Asia	2017	6,50	20	1,00	17067
United King...	Western Eu...	2017	0,40	24	2,00	28408
USA	North Amer...	2017	0,10	18	2,40	44049
Brazil	South Amer...	2017	6,70	20	0,80	12227
Russia	Eastern Eu...	2017	13,80	10	1,00	16657

114 rows 30

4.3 Enhancing data

DATA COLUMN PROPERTIES DATA TABLE PROPERTIES

Homicide r...	Employees...	Time devot...	Labour mar...	Long-term ...	Personal e...	Personal earnings SEK
Real	Real	Real	Real	Real	Real	Real
17,90	29,48	12,74	4,60	0,08	151119,57	
0,60	0,45	15,90	2,10	2,56	521461,71	
1,30	15,02	14,87	4,90	0,72	388848,39	
0,60	3,17	15,56	2,70	0,59	529456,41	
0,80	6,68	14,42	4,30	2,14	255840,27	
1,00	8,20	14,89	6,50	6,14	242101,23	