



Understanding the Decline in Tobacco Smoking and Its Impact on Cancer Rates

an analysis that hopefully will open your eyes...

CONTENT

WHAT MAKES TOBACCO SMOKING TREND DECLINING?

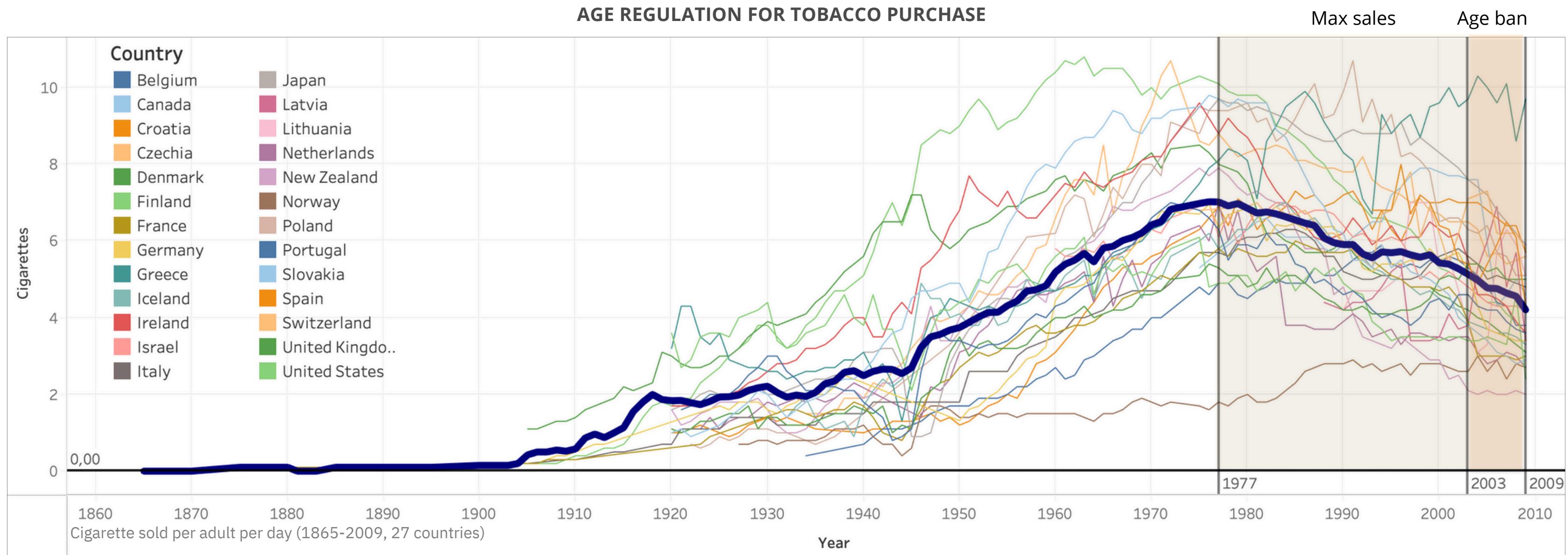
- Age regulation of purchasing
- Public smoking ban
- Advertising restriction & Affordability
- Tax on Tobacco & Affordability

THE IMPACT OF SMOKING HABITS ON CANCER RATES

- connection between cigarette sales and the incidence of cancer
- cancer mortality rates and cigarettes sales
- different between men and women

WHAT MAKES TOBACCO SMOKING TREND DECLINING?

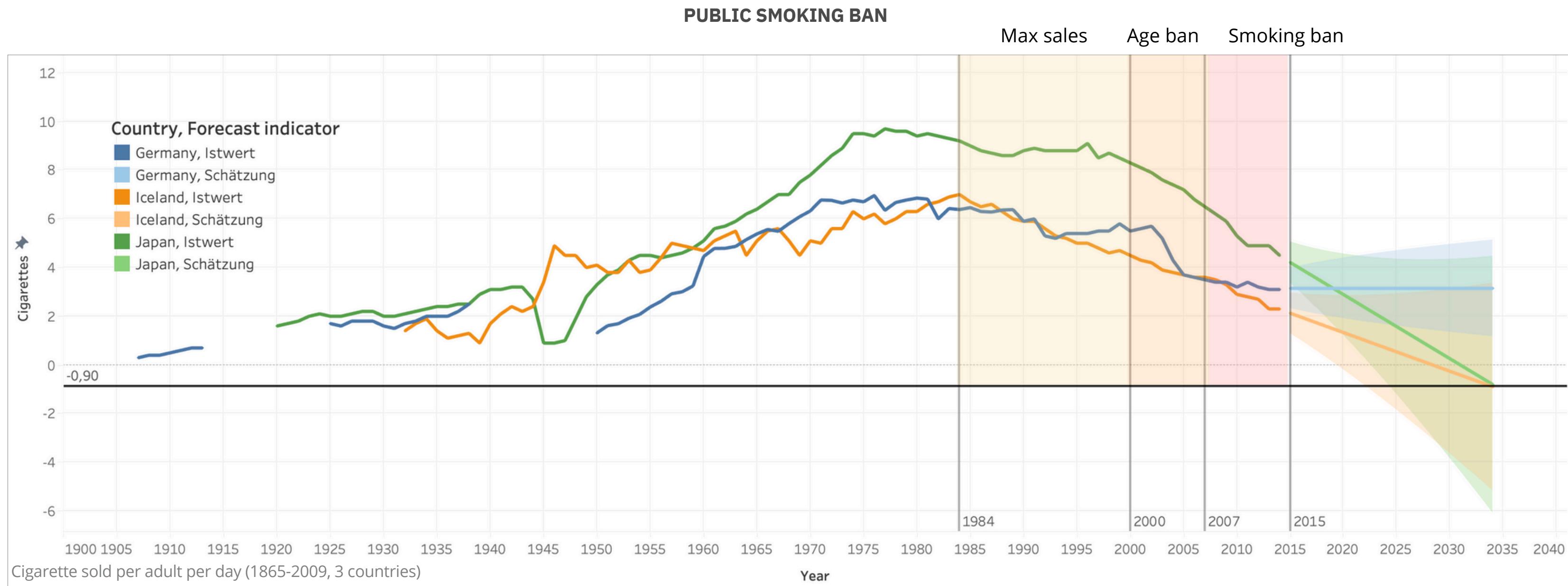
„How does age restriction affect tobacco sales?“



	Max_sales (year)	Age_ban (year)	Smoking_ban (year)	Max_sales to Age_ban (cigarette/ year)	Age_ban to 2009 (cigarette/year)	Max_sales to 2009 (%)
Country with min.	Finland	Japan	United States	Denmark	Slovakia	New Zealand
min	1963-	1989	1991	0.0129	-0.1000	-74.7
Mean value	1977	2003	2008	0.1231	0.1500	-51.1
max	2006	2009	2017	0.4500	0.6000	-5.8
Country with max	Latvia	Croatia	Czechia	Slovakia	Lithuania	Greece

WHAT MAKES TOBACCO SMOKING TREND DECLINING?

„Does public smoking ban affect tobacco sales?“

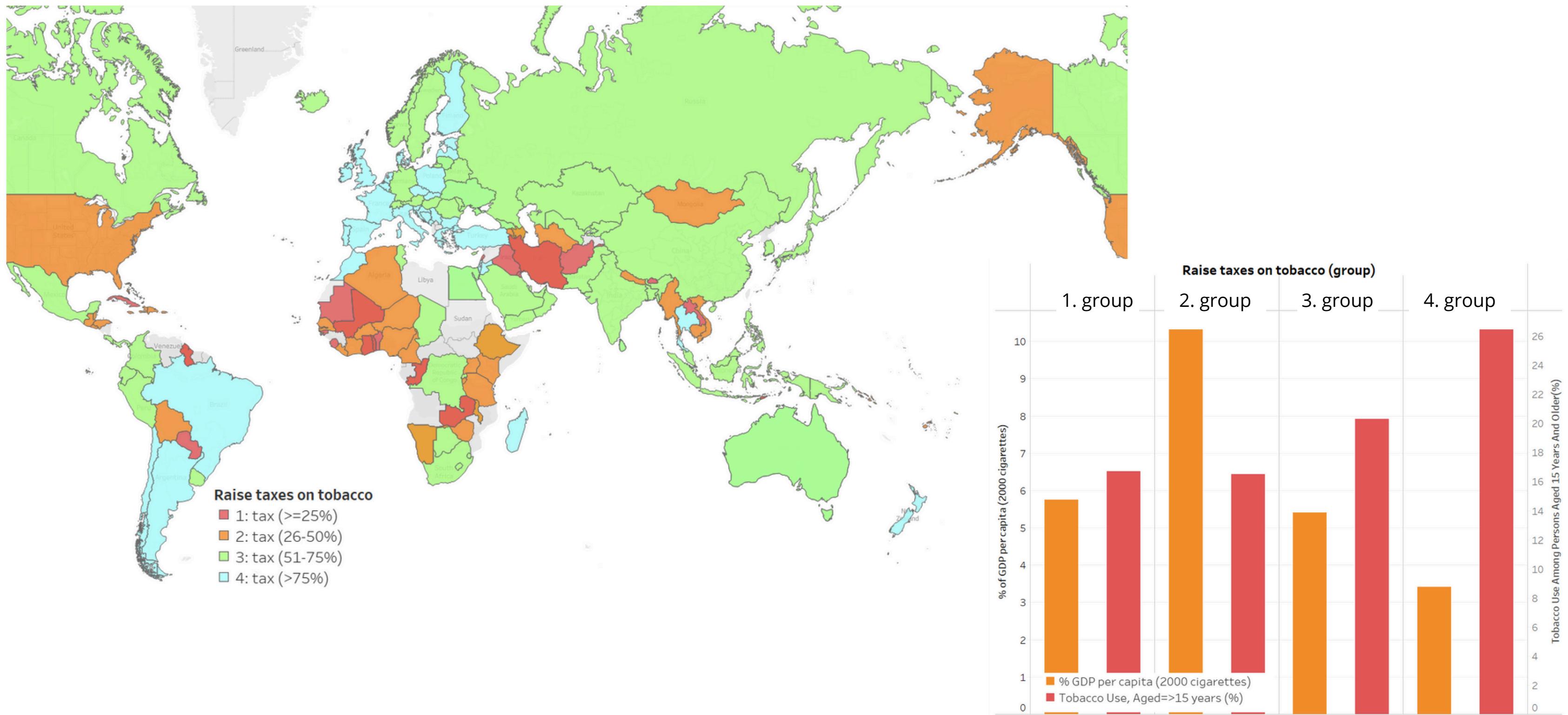


Country	Max_sales (year)	Age_limit (year)	Age_ban (year)	Smoking_ban (year)	Max_sales to Age_ban cigarette/year	Age_ban to Smoking_ban cigarette/year	Smoking_ban to2015 cigarette/year	Max_sales to 2015 (%)
Germany	1976	16 18	2003 2009	2008	0,0652	0,3600	0,0286	-54,0
Iceland	1984	18	2000	2007	0,0893	0,1286	0,1750	-68,6
Japan	1977	20	1989	2008	0,0483	0,1263	0,2286	-54,0

WHAT MAKES TOBACCO SMOKING TREND DECLINING?

„Taxation influence smoking habits?”

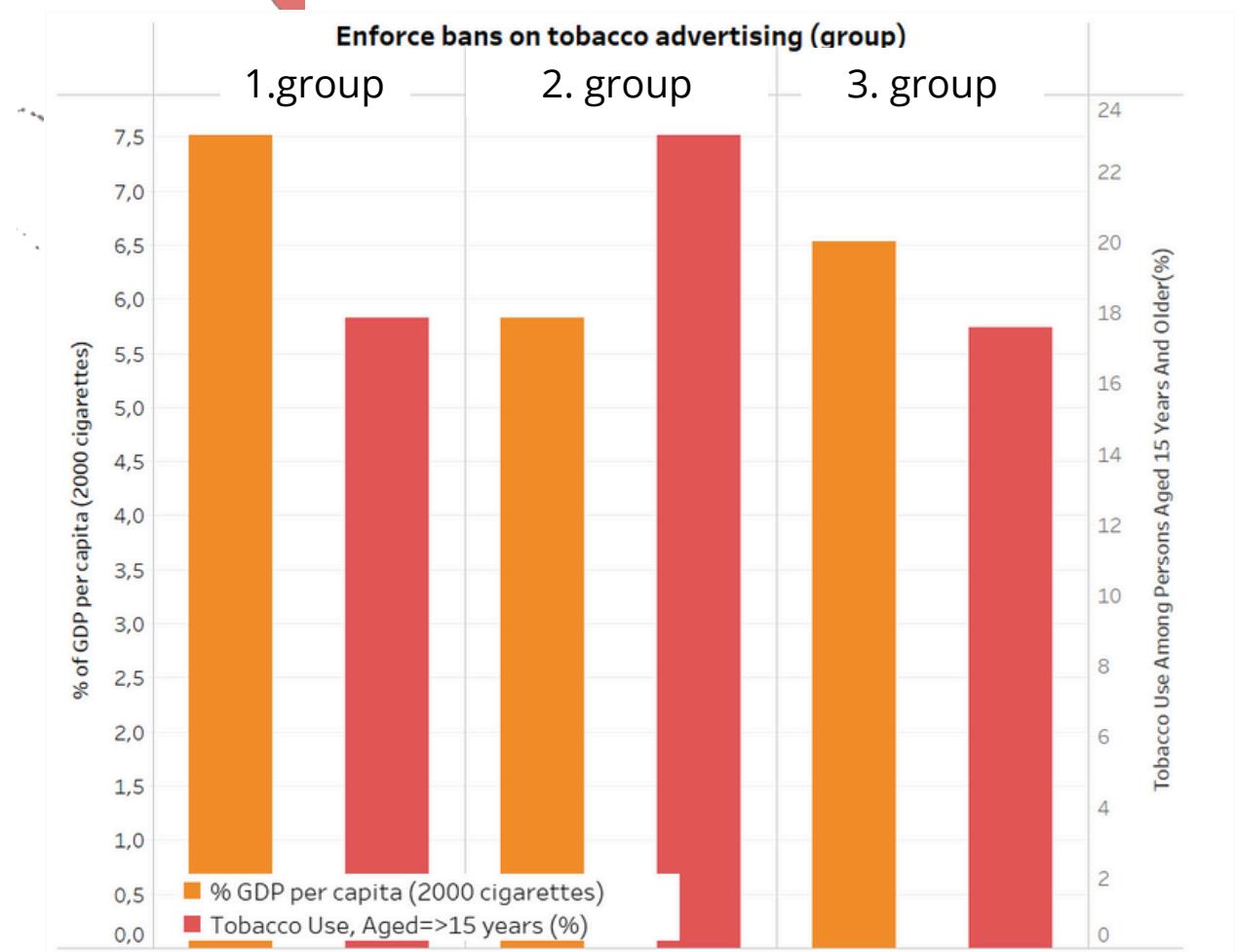
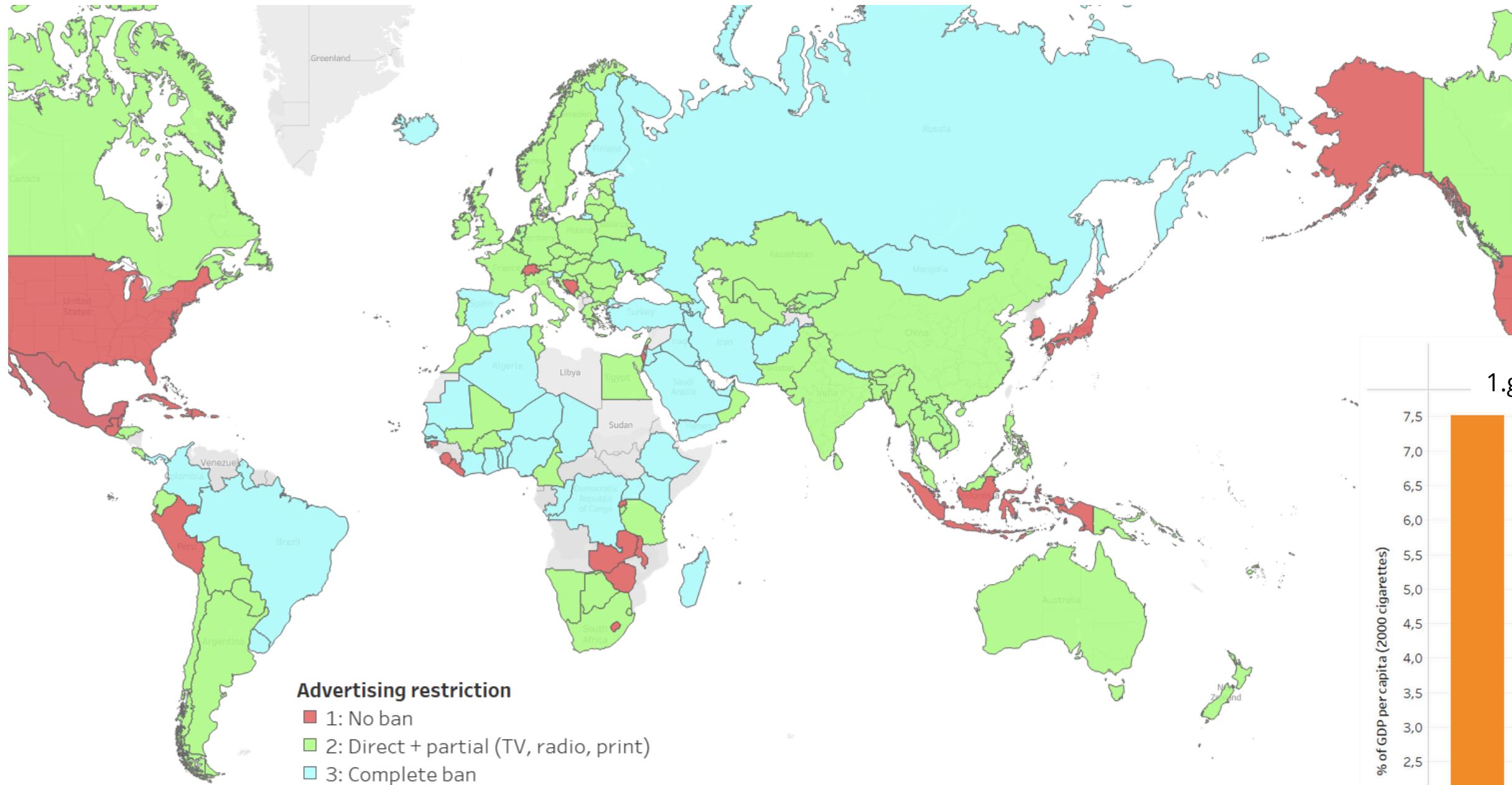
TOBACCO TAXATION (2022)



WHAT MAKES TOBACCO SMOKING TREND DECLINING?

„Advertising Restrictions Influence Smoking Habits?“

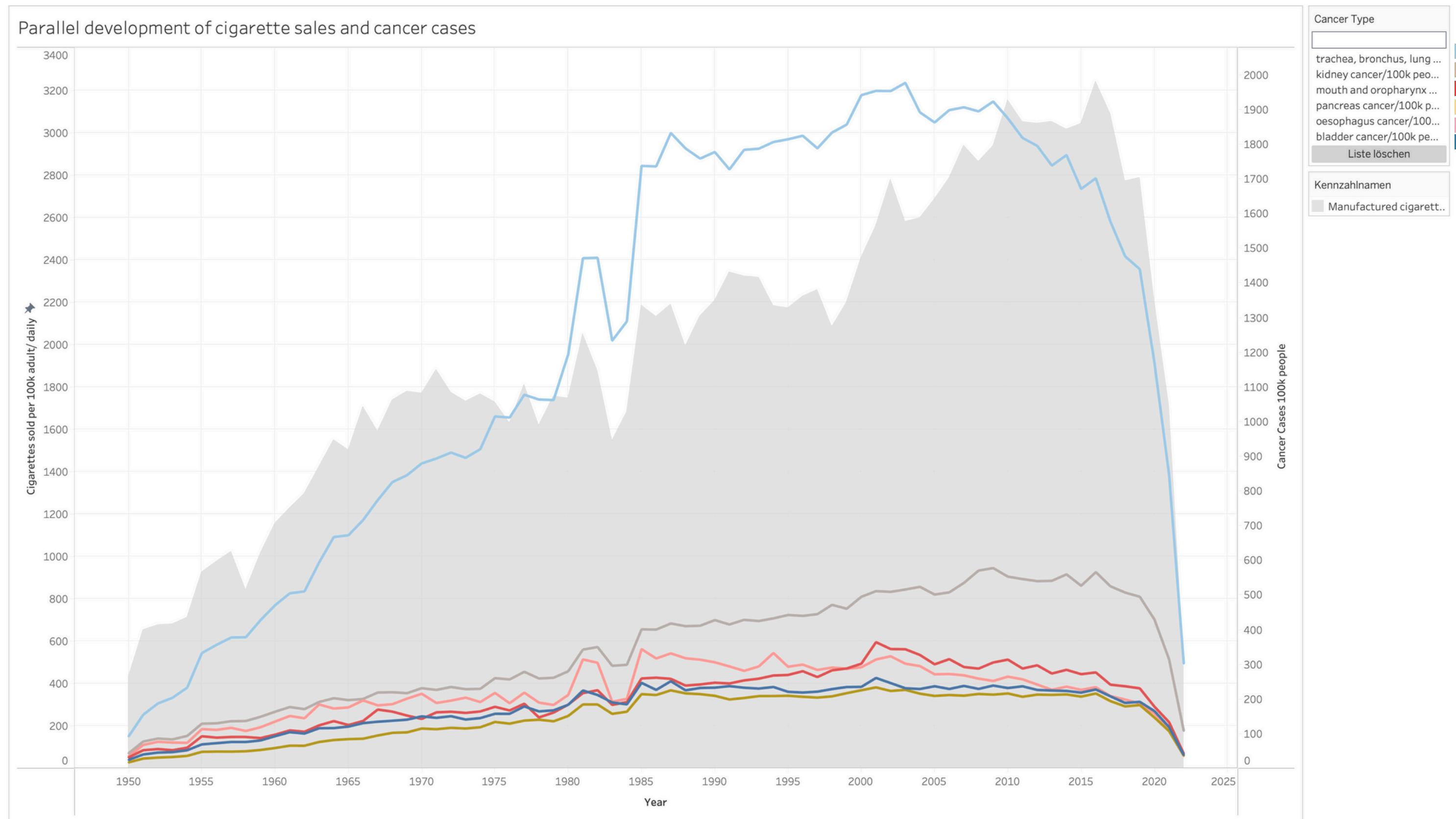
ADVERTISING RESTRICTIONS (2022)



THE IMPACT OF SMOKING HABITS ON CANCER RATES

„Is there a connection between cigarette sales and the incidence of cancer?“

THE IMPACT OF SMOKING HABITS ON CANCER RATES OVER YEARS



THE IMPACT OF SMOKING HABITS ON CANCER RATES

„How do cancer mortality rates and cigarettes sales vary across different countries and times?“

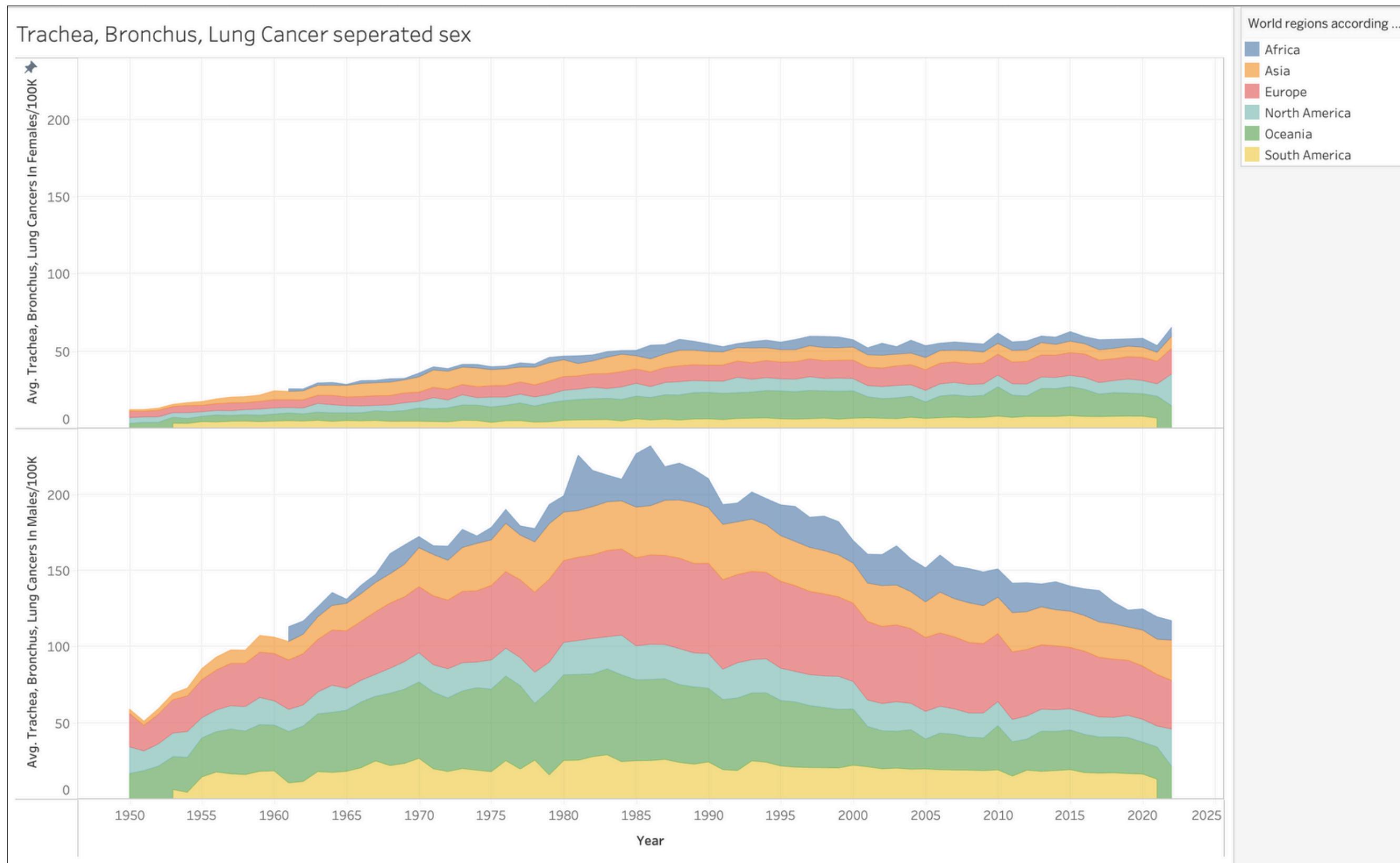
CANCER MORTALITY RATES AND CIGARETTES SALES VARY ACROSS DIFFERENT COUNTRIES AND TIMES



THE IMPACT OF SMOKING HABITS ON CANCER RATES

„Is there a difference between men and women when it comes to lung cancer?“

DIFFERENT BETWEEN MEN AND WOMEN



DATA AND METHOD (FOR THE CANCER PART ONLY)

DATA AND METHOD

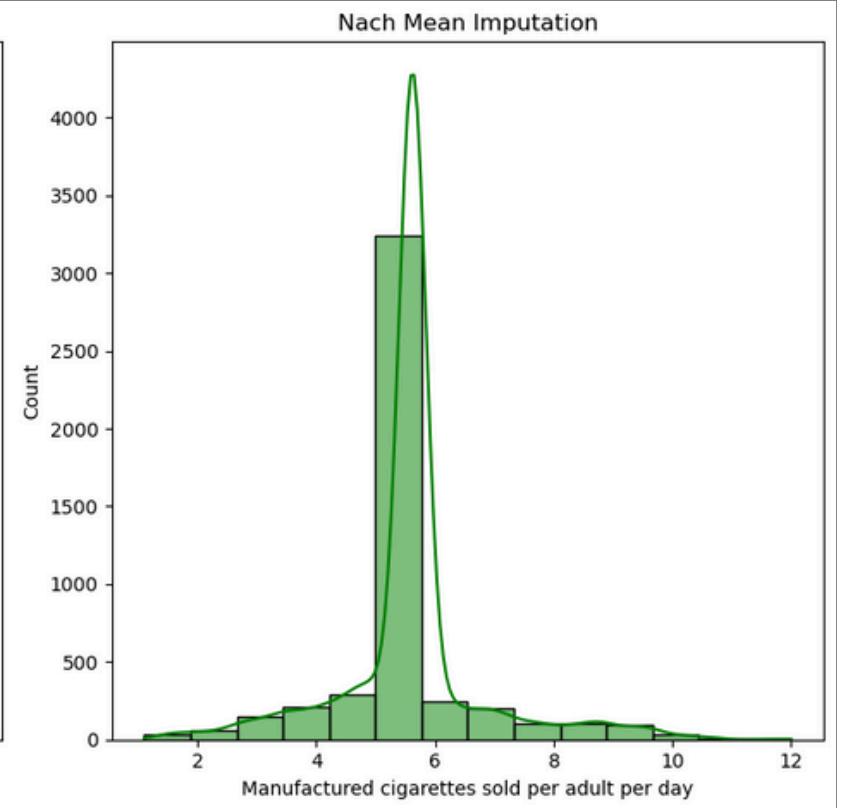
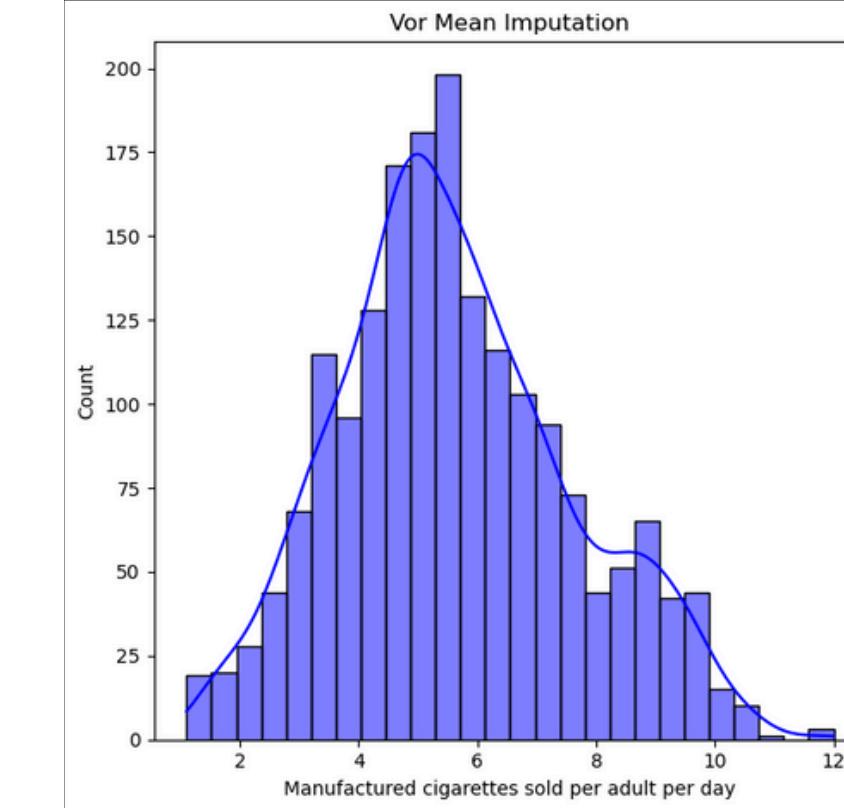
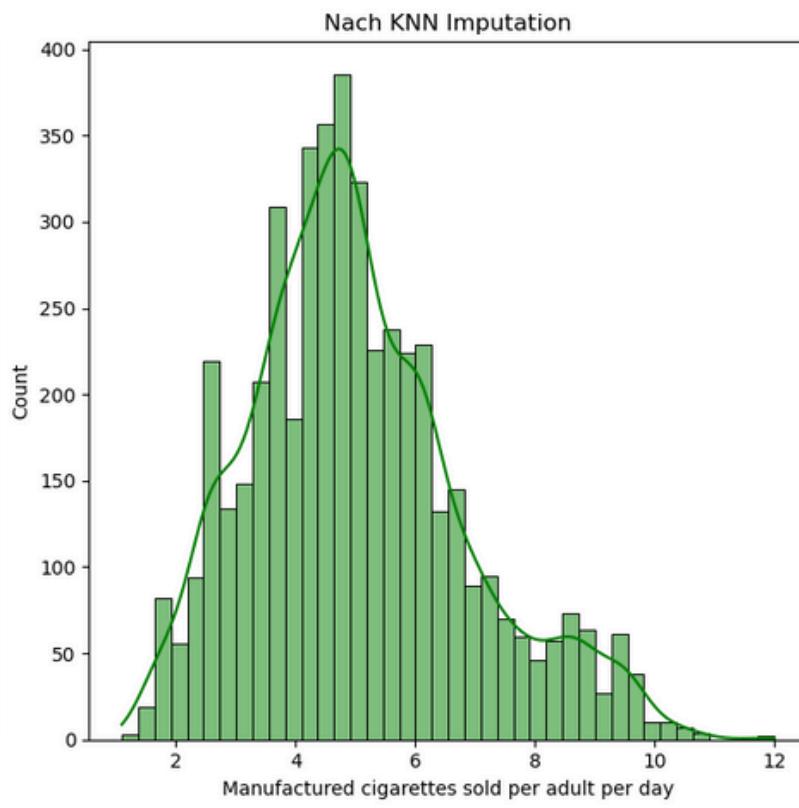
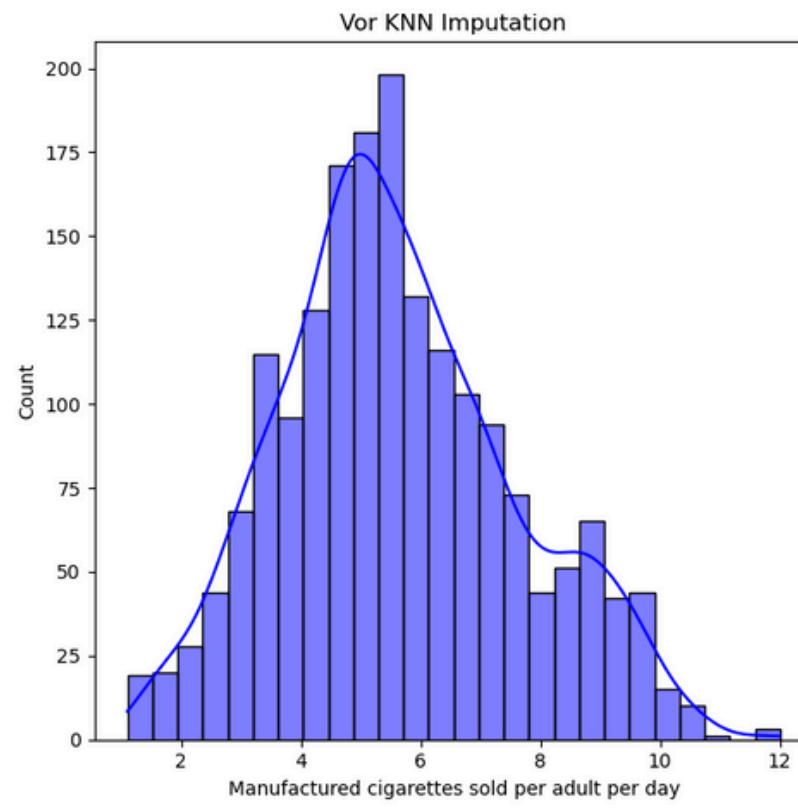
Data sources	Data	Info
ourworldindata.org	cancer_deaths_by_type	Mixed sex, 1950-2022
„	lung_cancer_deaths_men_women	Separate sex, 1950-2022
„	cigarettes_sold_per_adult	Mixed sex, 1865-2015
„	world_regions	Code, Country, Continent

DATA AND METHOD

Work	Tools
ETL, EDA	Python, Pandas, Numpy, Statsmodels, KNNImputer
Prep for Tableau	PostgreSQL
Visualization	Tableau, SeaBorn, Matplotlib
Help	Stackoverflow, Dokumentationen

DATA AND METHOD

How I prep the data for the analysis.



DATA AND METHOD

„Did you know that it can take up to 15 years to diagnose lung cancer?“

```

12 df_sorted['Manufactured cigarettes sold per adult per day'] =
13 df_sorted['Manufactured cigarettes sold per adult per day'].shift(-15)

```

	Entity	Year	Manufactured cigarettes sold per adult per day	Code_x	bladder cancer/100k people-m+f	rectum cancer/100k people-m+f	pancreas cancer/100k people-m+f	breast cancer/100k people-m+f	corpus uteri cancer/100k people-m+f	kidney cancer/100k people-m+f	g...	
0	albania	1987.0	5.633333	ALB	0.099165	2.377890	2.065733	3.238783	1.859631	2.170349	...	
1	albania	2010.0	5.900000	ALB	0.000000	2.255467	2.055513	3.538310	0.480509	0.867783	...	
2	albania	2009.0	5.766667	ALB	0.070392	3.030201	4.329549	4.225088	1.559992	1.371078	...	
3	albania	2008.0	4.500000	ALB	0.064975	3.015588	3.527404	4.985156	1.354055	1.392190	...	
4	albania	2007.0	5.766667	ALB	0.000000	3.254632	3.514524	3.857909	1.052587	1.395337	...	
...	
4771	venezuela	2006.0		NAN	VEN	1.329623	6.773061	3.832470	7.218360	2.490060	1.709067	...
4772	venezuela	2007.0		NAN	VEN	1.562348	7.111207	3.871166	7.341451	2.409183	1.672856	...
4773	venezuela	2008.0		NAN	VEN	1.304263	6.976519	4.027192	7.253656	2.363740	1.763612	...
4774	venezuela	2010.0		NAN	VEN	1.466271	7.214124	3.936463	7.659484	2.576427	1.853286	...
4775	venezuela	1978.0		NAN	VEN	1.845485	7.808637	4.091202	5.660443	7.371922	1.834138	...

4776 rows × 29 columns

„SHIFTED SOLD_CIGARETTES TO 15
YEARS TO COMPARE THEM TO
CANCER“

THANK YOU