



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

We begin at 11.15 while we wait for everyone to arrive and get comfortable.

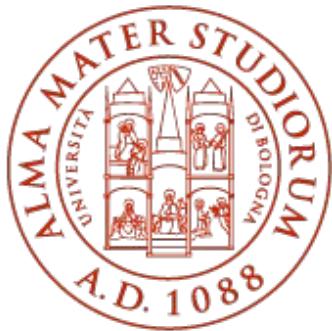
In the meantime get ready:

- create an account on [Flourish.studio](#) , if you haven't done so already.
- Download slides from [Virtuale](#) for access to links and datasets

Alice Corona

Dipartimento di Scienze Statistiche "Paolo Fortunati"

96801 - LANGUAGE LABORATORY: COMMUNICATION OF STATISTICS AND DATA BUSINESS ANALYTICS



LESSON 8 - 03/12/2025

**ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA**

Alice Corona

Dipartimento di Scienze Statistiche "Paolo Fortunati"

DATA VIZ WORKSHOP

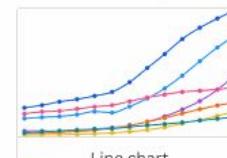
Making charts with Flourish

[Choose a template](#)[Start with data](#)

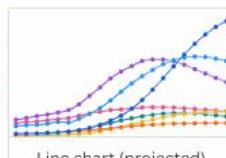
BETA

 Search templates By Flourish By Me Type[All](#) [3D](#) [Animated](#) [Areas](#)[Bars](#) [Circles](#) [Icons](#) [Images](#)[Interactive content](#) [Lines](#) [Maps](#)[Pies](#) [Radial](#) [Small multiples](#)[Text](#) Purpose[All](#) [Annotation](#)[Change over time](#) [Comparison](#)[Correlation](#) [Counter](#)[Distribution](#) [Engagement](#)[Exploration](#) [Flow](#) [Hierarchy](#)

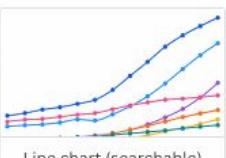
Line, bar and pie charts



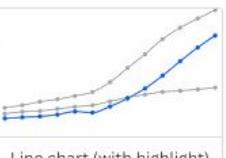
Line chart



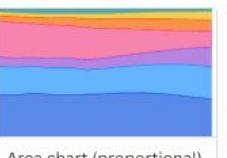
Line chart (projected)



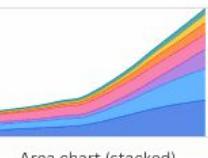
Line chart (searchable)



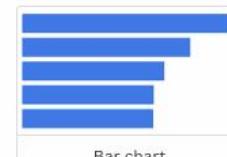
Line chart (with highlight)



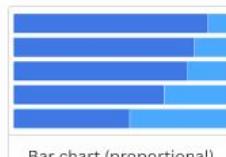
Area chart (proportional)



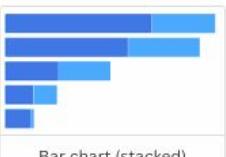
Area chart (stacked)



Bar chart



Bar chart (proportional)



Bar chart (stacked)



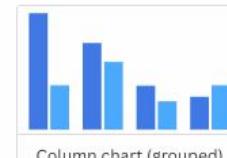
Column + line



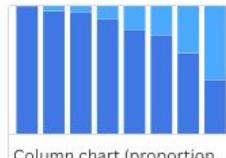
Line + area



Column chart



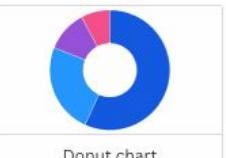
Column chart (grouped)



Column chart (proportion...)



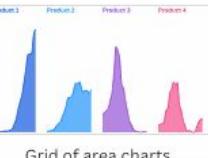
Custom grid (columns)



Donut chart



Fan chart



Grid of area charts



Media

Finance

Health

Education



Marketing

Media

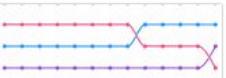
Finance

Education



Media

Finance



Step



Three



? Help

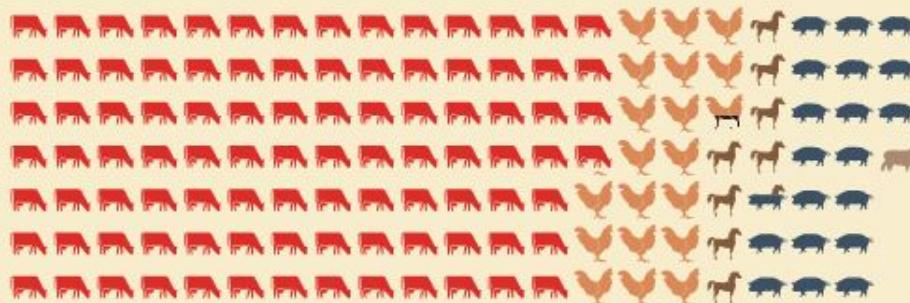
There are more cattle, pigs and chicken in the US - but the UK produces more sheep

Livestock units, 1961 and 2019

2019

1961

■ = 1,000,000 units Cattle Chickens Goats Horses Pigs Sheep Donkeys



USA

143,826,584.7 units

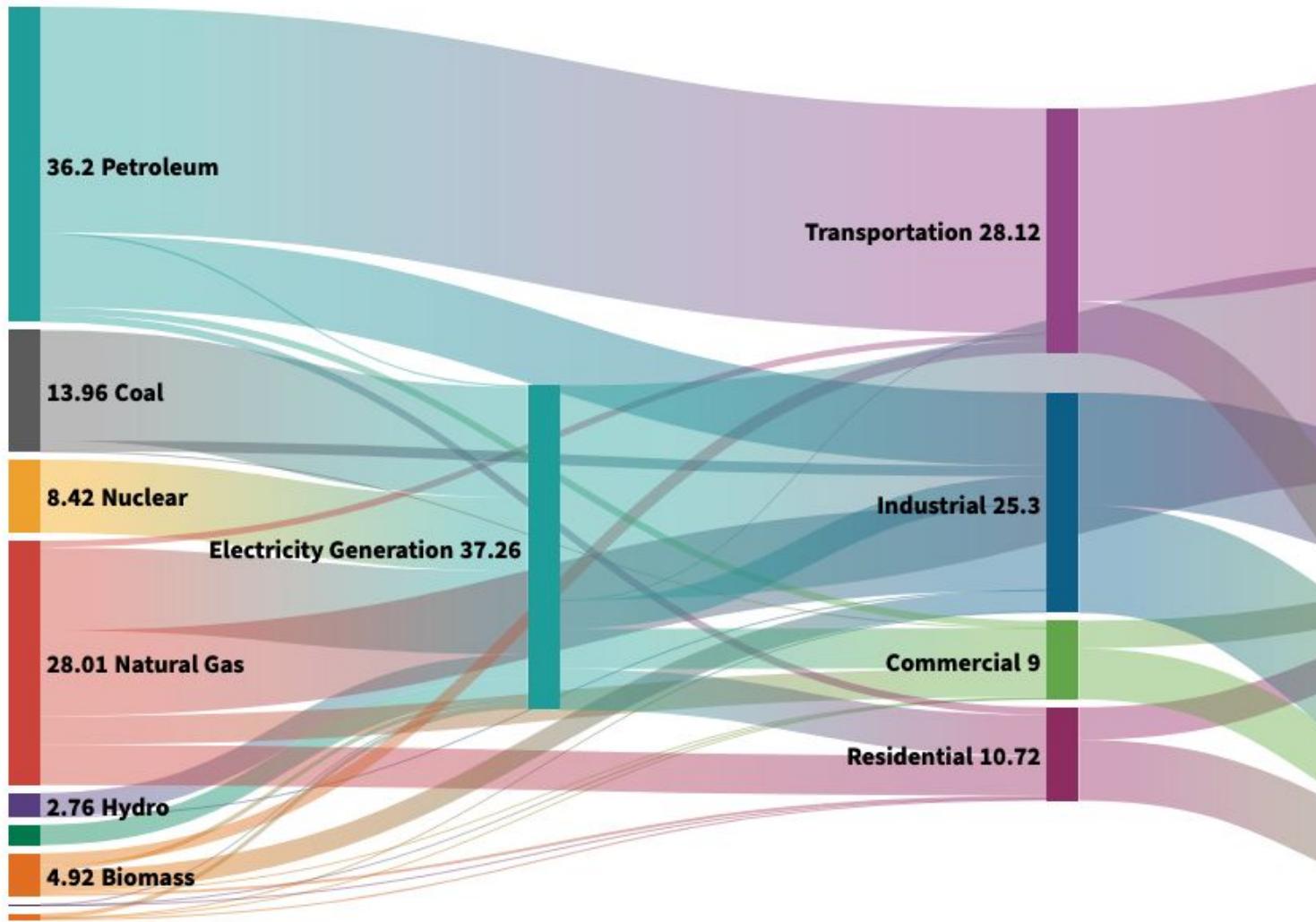


UK

15,448,162.1 units

PICTOGRAMS

SANKEYS

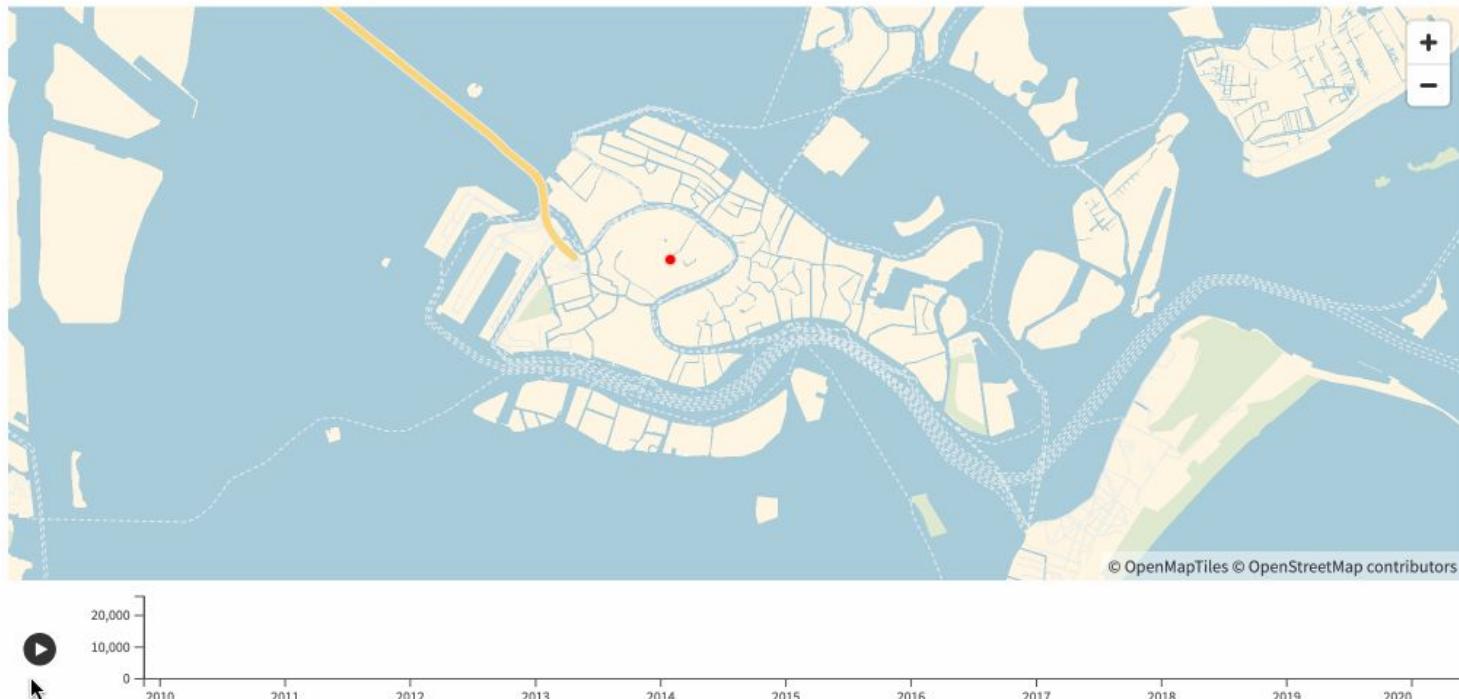


ANIMATED MAPS

The Growth of Airbnb in Venice

Most of the Airbnb listings are for **entire apartments**.

The following chart shows Airbnb listings in Venice. One point is one listing. Each point is sized according to the number of people that Airbnb can accomodate and it is colored in red if it is a listing for an entire apartment. The points appear and disappear based on the first and last review received by each listing. A listing for an entire apartment that is constantly reviewed is a house subtracted to students and residents and contributes to rising house prices.



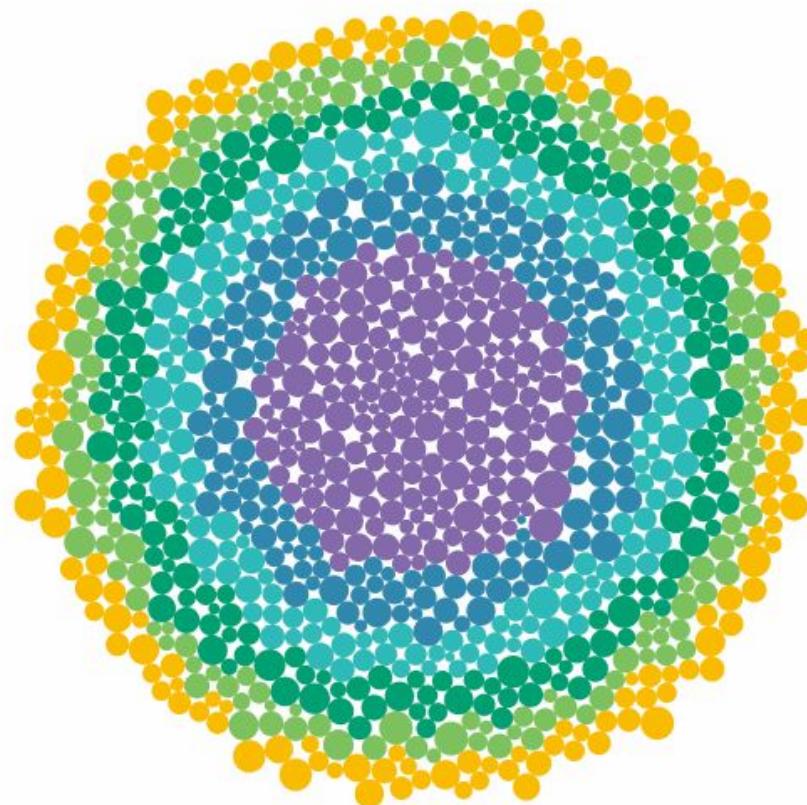
Source: [Inside Airbnb](#) • Map by Alice Corona

DATA EXPLORERS

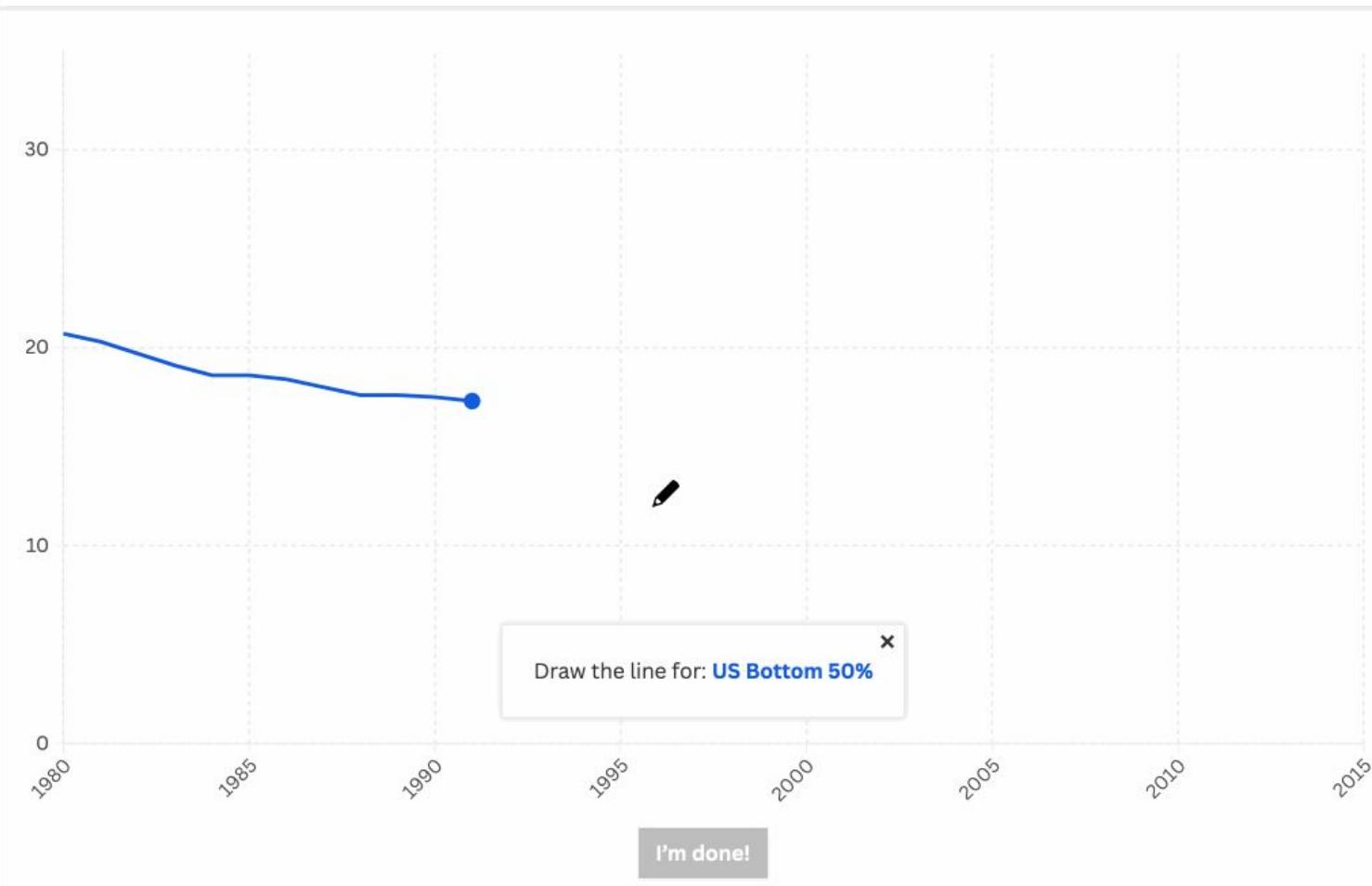


1 of 8

The Flourish Survey template is ideal for exploring datasets where **each row represents an entity** – such as survey respondents. Click next!



**YOU DRAW
IT!**



DATAWRAPPER...

...is the best tool for making clean, polished and effective charts in minutes.

FLOURISH...

...requires more effort, but is the tool to go to if:

 ~~you want to then edit the .SVG with other tools~~

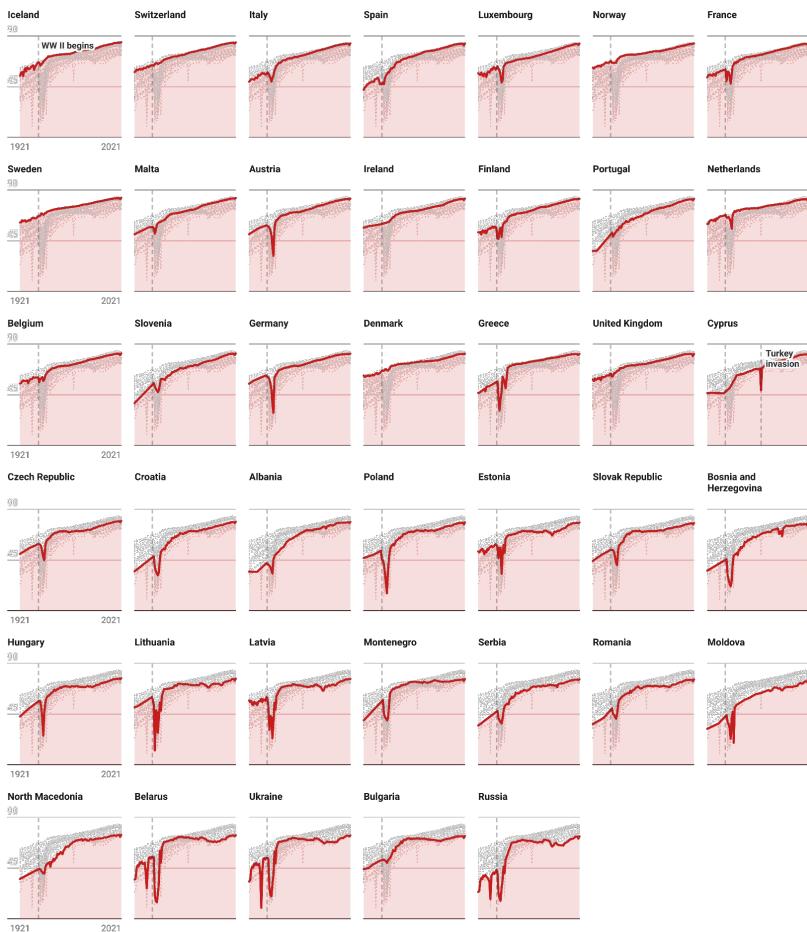


-  you need filters
-  you need animations
-  you need transitions / slide storytelling
-  you need interactive maps with a basemap background and zoom controls.

FILTERS

Life expectancy in Europe 1921 - 2021

Countries are sorted by highest life expectancy in 2021



Life expectancy in Europe 1921 - 2021

Countries are sorted by highest life expectancy in 2021

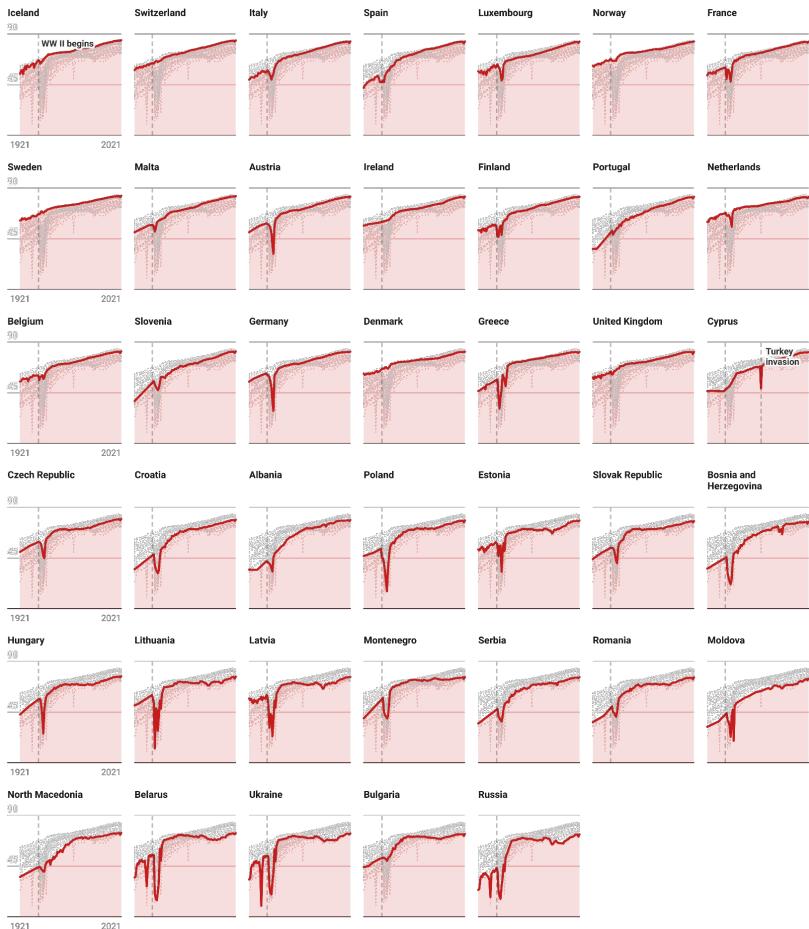
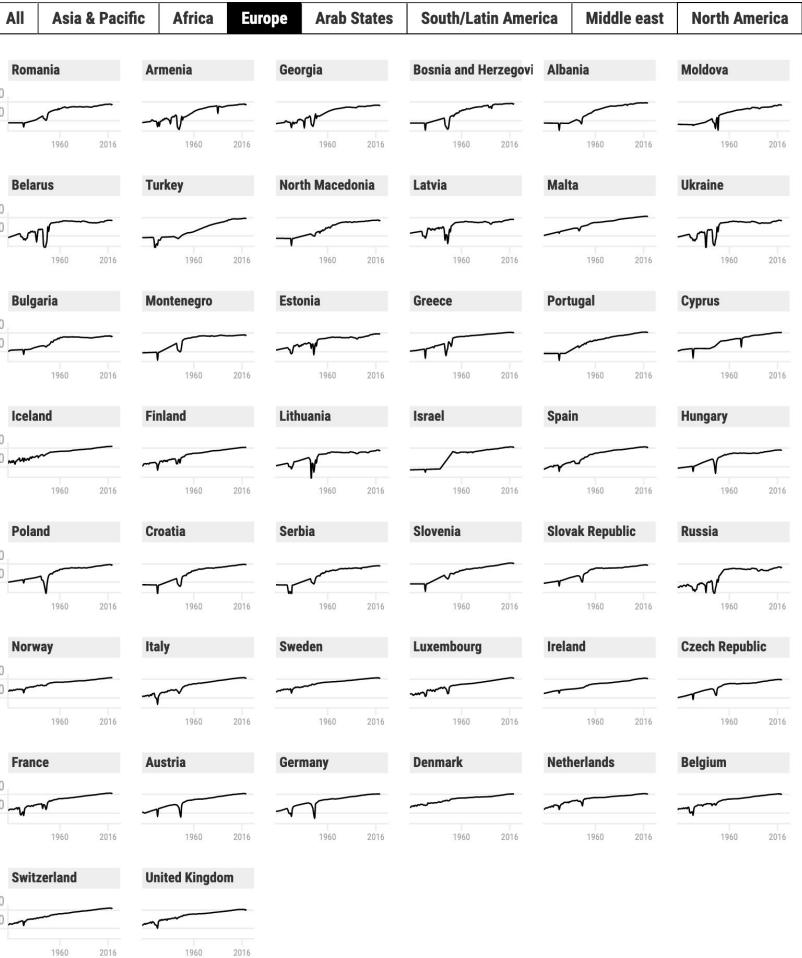


Chart: Alice Corona • Source: World Bank • Created with Datawrapper

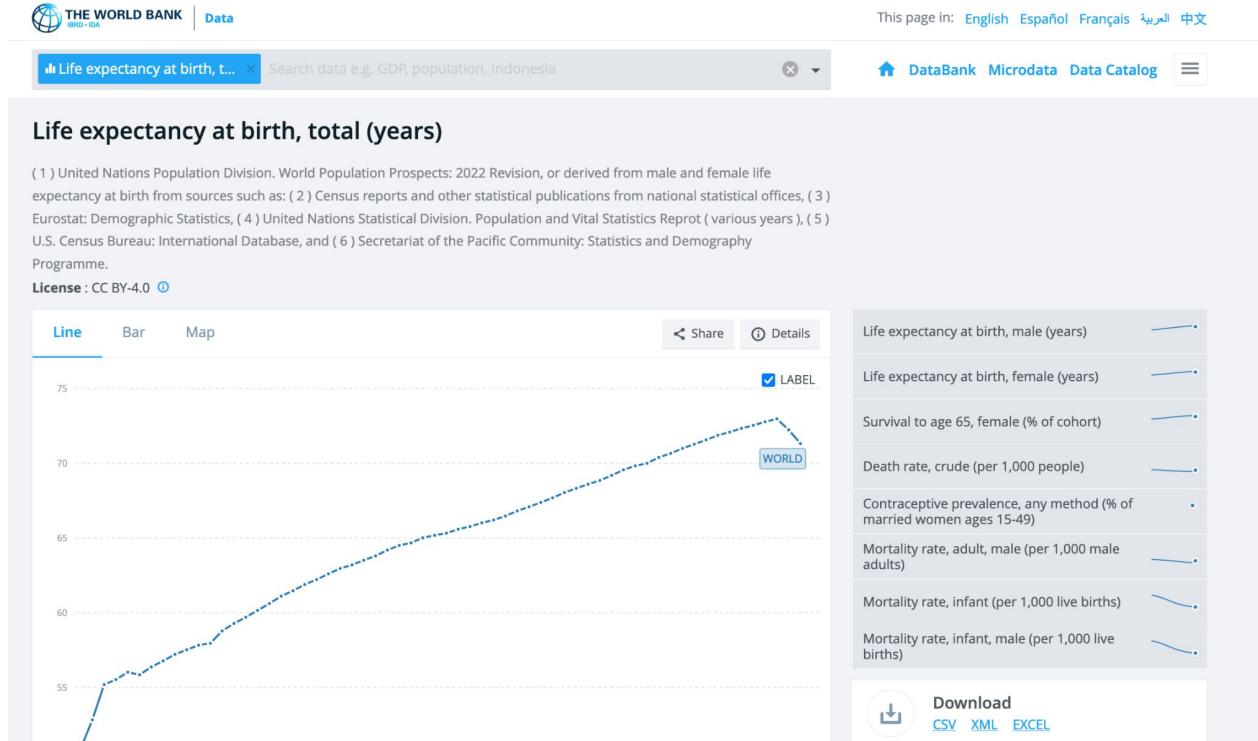
Life expectancy in the world between 1900 - 2021



Sources: World Bank via OurWorldInData • Chart by Alice Corona

FIND THE DATA

THE WORLD BANK LIFE EXPECTANCY • Origin



PREPARE THE DATA

THE WORLD BANK LIFE EXPECTANCY • GSheet

E	A	B	C	D
1	year	country	life_expectancy_years	region
2	1921	Kyrgyz Republic	11.7	Asia & Pacific
3	1921	Turkmenistan	18	Asia & Pacific
4	1921	Tajikistan	20.3	Asia & Pacific
5	1921	Bangladesh	22.9	Asia & Pacific
6	1921	Kazakhstan	23.1	Asia & Pacific
7	1921	Uzbekistan	23.4	Asia & Pacific
8	1921	Russia	23.8	Europe
9	1921	Mauritius	23.9	Africa
10	1921	Solomon Islands	24.3	Asia & Pacific
11	1921	Micronesia, Fed. Sts.	25.5	Asia & Pacific
12	1921	Iran	25.6	Middle east
13	1921	Kiribati	25.7	Asia & Pacific
14	1921	Azerbaijan	25.9	Asia & Pacific
15	1921	Guatemala	26.3	South/Latin America
16	1921	Vanuatu	26.8	Asia & Pacific
17	1921	Nicaragua	26.9	South/Latin America
18	1921	St. Vincent and the Grenadin	27.2	South/Latin America
19	1921	St. Lucia	27.9	South/Latin America

IMPORT THE DATA

THE WORLD BANK LIFE EXPECTANCY • [Dataviz](#)

Data

	A	B	C	D
1	country	year	life_expectancy_years	region
2	Kyrgyz Republic	1921	11.7	Asia & Pacific
3	Turkmenistan	1921	18	Asia & Pacific
4	Tajikistan	1921	20.3	Asia & Pacific
5	Bangladesh	1921	22.9	Asia & Pacific
6	Kazakhstan	1921	23.1	Asia & Pacific
7	Uzbekistan	1921	23.4	Asia & Pacific
8	Russia	1921	23.8	Europe
9	Mauritius	1921	23.9	Africa
10	Solomon Islands	1921	24.3	Asia & Pacific
11	Micronesia, Fed. Sts.	1921	25.5	Asia & Pacific
12	Iran	1921	25.6	Middle east
13	Kiribati	1921	25.7	Asia & Pacific
14	Azerbaijan	1921	25.9	Asia & Pacific
15	Guatemala	1921	26.3	South/Latin America
16	Vanuatu	1921	26.8	Asia & Pacific
17	Nicaragua	1921	26.9	South/Latin America

Preview Data

Upload data

Data

Labels/time (REQUIRED) B

Values C

Charts grid A

Row filter D

Info for custom popups

FORMAT THE DATA

THE WORLD BANK LIFE EXPECTANCY • [Dataviz](#)

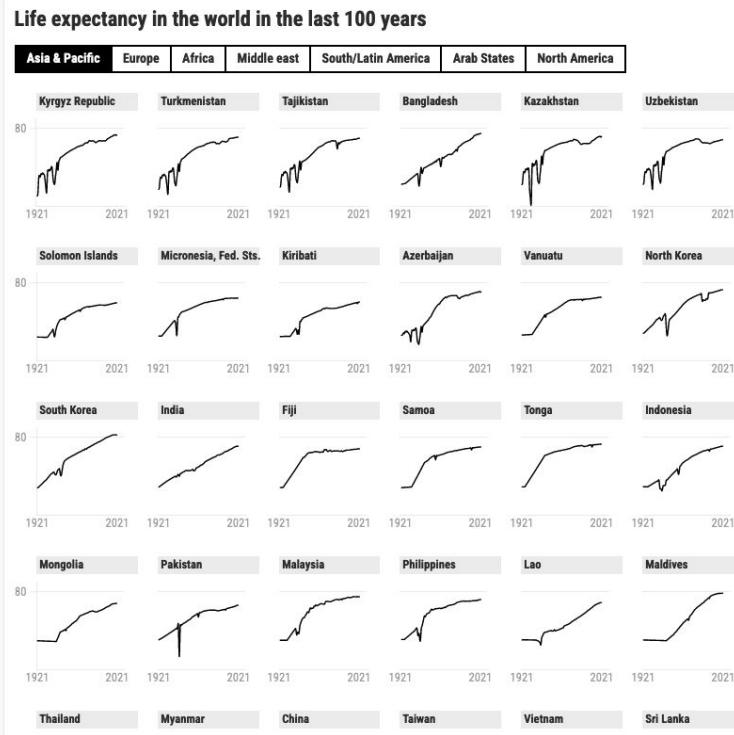
The screenshot shows a user interface for configuring data visualization settings. On the left, there is a vertical sidebar with a blue header bar and a white body containing a list of items. Each item has a label on the left and a corresponding colored button on the right. The items are:

- Labels/time** (REQUIRED) [B] (pink button)
- Values** [C] (purple button)
- Charts grid** [A] (pink button)
- Row filter** [D] (blue button)
- Info for custom popups** [] (light blue button)

At the top of the main area, there is a blue button labeled "Upload data" with a dropdown arrow, and two small circular icons.

FORMAT THE CHART

THE WORLD BANK LIFE EXPECTANCY • [Dataviz](#)



v22.2.5

Chart type

Grid of charts

Number of columns: Auto Fixed 100

Horizontal margin: 1.5

Show titles

Alignment: Auto Size: 0.9

Color: Space above: 0.25

Background: Full

X AXIS

Same across grid Last row only

Y AXIS (LEFT)

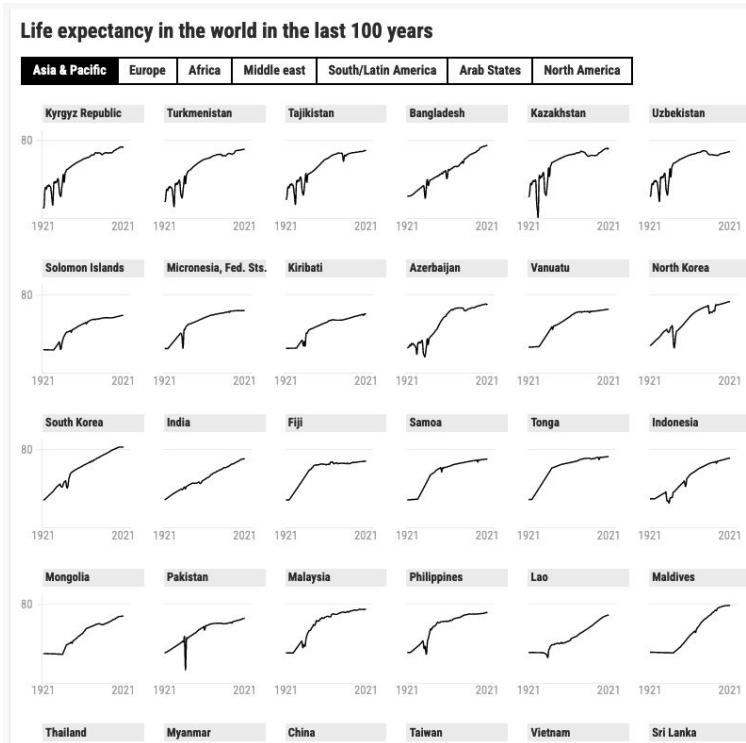
Same across grid First column only

Controls & filters

Colors

DESCRIBE THE CHART

THE WORLD BANK LIFE EXPECTANCY • [Dataviz](#)



▶ **Popups**

▶ **Annotations**

▶ **Animations**

▶ **Layout**

▼ **Header**

Alignment



TITLE

Life expectancy in the world in the last

Change title styles

SUBTITLE

Change subtitle styles

TEXT

Styling

BORDER

None ▾

LOGO/IMAGE

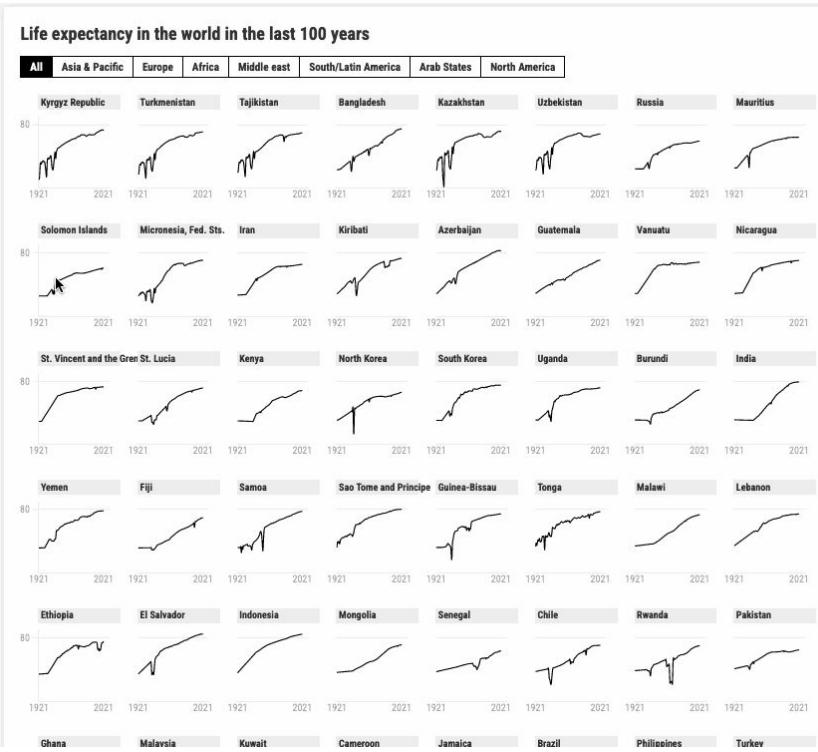
Enabled

Disabled

▶ **Footer**

PUBLISH THE CHART

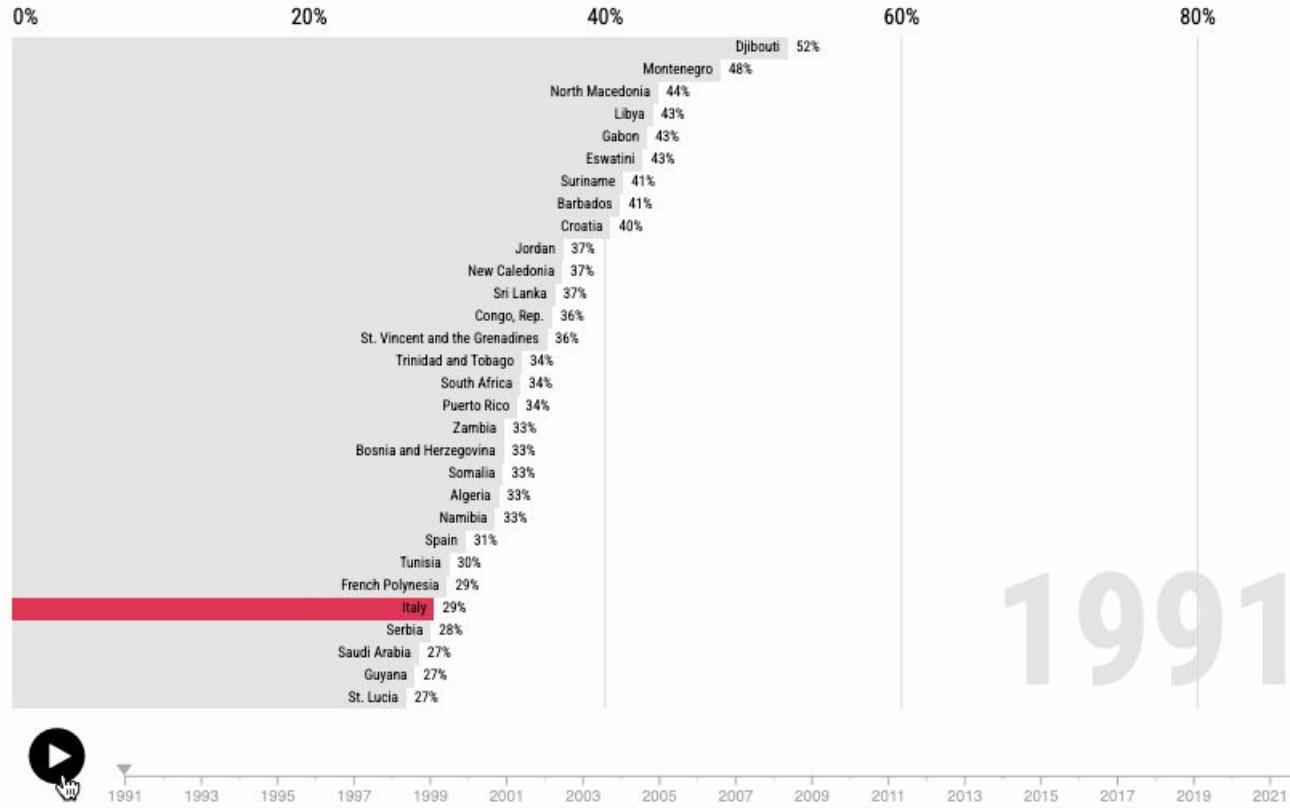
THE WORLD BANK LIFE EXPECTANCY • [Dataviz](#)



ANIMATIONS

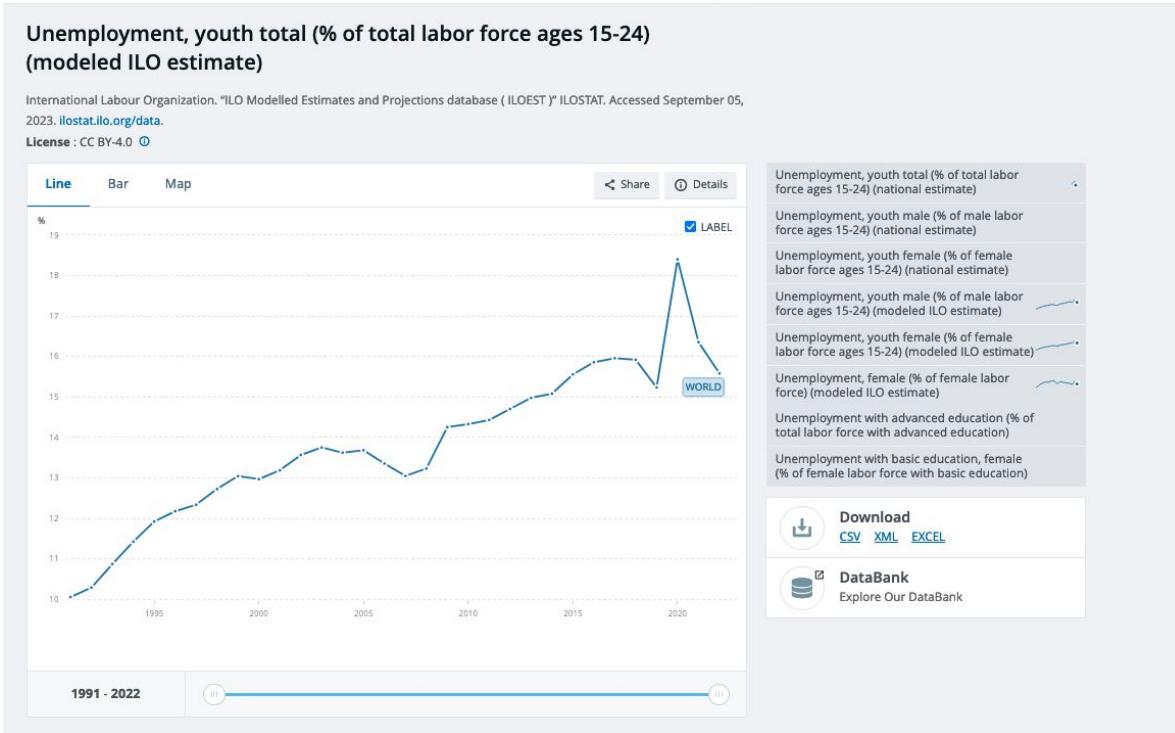
Italy often in top 30 countries with higher youth unemployment during 1991 - 2022

Between 1991 and 2018, Italy's youth unemployment rate never went below 24%. The value peaked in 2014, with 43% of youths aged 15 - 24 unemployed: the 11th highest value in the world.



FIND THE DATA

THE WORLD BANK, Youth Unemployment • [Source](#)



PREPARE THE DATA

THE WORLD BANK, Youth Unemployment • GSheet

	A	B	C	D	E	F	G	H	
1	Country Name	Country Code	Region	1991	1992	1993	1994	1995	
2	Djibouti	DJI	Africa	52.387	52.54	53.325	53.616	54.112	
3	Bosnia and Herzegovina	BIH	Europe	33.201	34.987	37.262	39.96	41.91	
4	North Macedonia	MKD	Europe	43.632	46.966	49.482	53.409	63.324	
5	Spain	ESP	Europe	30.629	32.943	42.099	44.784	41.721	
6	Greece	GRC	Europe	23.902	24.32	26.24	27.127	27.304	
7	Libya	LBY	MENA	43.265	43.832	44.104	44.247	44.702	
8	Eswatini	SWZ	Africa	42.589	42.945	43.364	43.812	44.146	
9	Serbia	SRB	Europe	28.29	27.593	27.408	28.45	28.484	
10	St. Lucia	LCA	Latin and South	26.634	26.566	26.735	27.175	25.405	
11	Croatia	HRV	Europe	40.424	38.497	35.884	34.016	31.345	
12	South Africa	ZAF	Africa	34.339	34.792	34.963	35.16	35.398	
13	Italy	ITA	Europe	28.518	28.136	30.136	31.837	33.521	
14	Albania	ALB	Europe	16.739	48.366	40.522	33.52	23.545	
15	Congo, Rep.	COG	Africa	36.482	36.701	37.028	37.402	37.428	
16	Namibia	NAM	Africa	32.628	33.039	33.743	34.039	37.545	
17	New Caledonia	NCL	Asia And Pacific	37.161	38.309	38.752	38.929	39.021	
18	Georgia	GEO	Europe	4.832	9.653	9.634	14.952	13.423	
19	St. Vincent and the Grenadines	VCT	Latin and South	36.119	36.224	36.517	37.14	37.129	
20	Tunisia	TUN	MENA	29.516	29.607	30.172	30.396	30.901	
21	West Bank and Gaza	PSE	MENA	17.677	17.231	17.144	16.89	16.761	
22	Gabon	GAB	Africa	42.899	43.44	43.303	42.132	40.976	
23	Montenegro	MNE	Europe	47.851	47.719	47.61	49.875	51.011	

IMPORT THE DATA

THE WORLD BANK, Youth Unemployment • [Dataviz](#)

Data	Captions																
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	
1	Country Name	Country Code	Region	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
2	Djibouti	DJI	Africa	52.39	52.54	53.33	53.62	54.11	54.68	55.02	55.39	55.86	56.75	57.38	58.16	59.16	60.16
3	South Africa	ZAF	Africa	34.34	34.79	34.96	35.16	35.40	35.49	35.70	35.92	35.89	35.85	35.90	35.84	35.91	35.91
4	Libya	LBY	MENA	43.27	43.83	44.10	44.25	44.70	44.67	44.94	45.18	45.43	45.55	45.73	45.87	45.85	46.11
5	Eswatini	SWZ	Africa	42.59	42.95	43.36	43.81	44.15	44.84	45.69	47.05	48.35	49.69	50.90	51.83	52.90	53.11
6	Congo, Rep.	COG	Africa	36.48	36.70	37.03	37.40	37.43	37.67	38.04	38.18	38.58	38.56	38.89	39.14	39.51	39.51
7	West Bank and Gaza	PSE	MENA	17.68	17.23	17.14	16.89	16.76	16.59	16.28	16.08	15.91	15.80	31.25	38.71	35.41	35.41
8	St. Lucia	LCA	Latin and South America	26.63	26.57	26.74	27.18	25.41	26.18	32.92	35.08	29.37	27.16	30.49	33.70	37.17	38.11
9	Namibia	NAM	Africa	32.63	33.04	33.74	34.04	37.55	41.26	45.02	42.93	40.74	38.48	39.78	40.86	42.12	42.12
10	Jordan	JOR	MENA	37.22	37.29	38.57	34.30	29.85	28.18	28.48	28.84	29.14	29.40	31.64	33.14	31.36	32.11
11	St. Vincent and the Grenadines	VCT	Latin and South America	36.12	36.22	36.52	37.14	37.13	37.72	37.95	38.29	38.74	39.19	39.63	39.03	38.58	38.58
12	New Caledonia	NCL	Asia And Pacific	37.16	38.31	38.75	38.93	39.02	40.57	40.24	40.99	40.12	39.80	39.64	39.32	38.66	38.66
13	Botswana	BWA	Africa	25.15	28.93	32.63	36.27	36.24	36.35	37.04	38.14	34.88	31.83	38.84	42.84	46.77	41.11
14	Tunisia	TUN	MENA	29.52	29.61	30.17	30.40	30.90	31.11	31.66	31.28	30.81	30.55	29.77	30.41	30.79	30.79
15	Gabon	GAB	Africa	42.90	43.44	43.30	42.13	40.98	39.97	38.90	38.04	37.59	36.45	35.47	34.73	33.85	33.85
16	French Polynesia	PYF	Asia And Pacific	29.39	30.38	30.88	31.18	31.56	31.84	31.94	31.60	32.22	32.43	33.03	33.09	32.91	33.09
17	Somalia	SOM	Africa	33.17	33.36	33.12	33.53	33.08	32.95	33.03	32.87	32.80	32.77	32.71	32.69	32.73	32.73

Upload data
Saved
Import

Data

SELECT COLUMNS TO VISUALISE

Label REQUIRED

Values

Categories

A

D-AI

A

Optional category column to color the bars. Make sure the "Color mode" setting is set to "By Category" in the "Bar colors" settings panel

Image

Italy often in top 30 countries with higher youth unemployment during 1991 - 2022
 Between 1991 and 2022, Italy's youth unemployment rate was above 30%. The values provided in 2014, with 30% credits against 2014.

FORMAT THE DATA

THE WORLD BANK, Youth Unemployment • [Dataviz](#)

The screenshot shows the DataViz interface for visualizing World Bank data on youth unemployment. At the top, there's a blue button labeled "Upload data" with a dropdown arrow, and a "Saved" section with two circular icons. Below this, the word "Data" is displayed next to a grid icon.

The main area is titled "SELECT COLUMNS TO VISUALISE". It contains four sections:

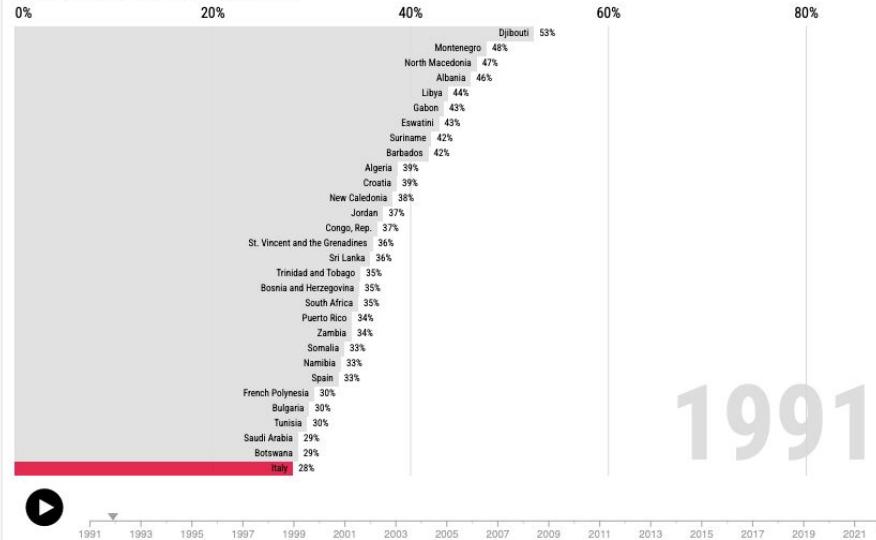
- Label** (REQUIRED): A field containing the letter "A" in a pink box.
- Values**: A field containing "D-AI" in a purple box.
- Categories** (with a question mark icon): A field containing "A" in a pink box. Below it, a note reads: "Optional category column to color the bars. Make sure the 'Color mode' setting is set to 'By Category' in the 'Bar colors' settings panel."
- Image** (with a question mark icon): A field containing a small blue square.

FORMAT THE CHART

THE WORLD BANK, Youth Unemployment • Dataviz

Italy often in top 30 countries with higher youth unemployment during 1991 - 2022

Between 1991 and 2018, Italy's youth unemployment rate never went below 24%. The value peaked in 2014, with 43% of youths aged 15 - 24 unemployed: the 11th highest value in the world.



Source: ILO (via World Bank) • Chart by Alice Corona

Bar chart race
v14.1.1 19

▼ Setup

Chart style	No. bars	Spacing (%)
Horizontal	Vertical	30

Sorting Sort mode
On Off Show advanced

Bar height Height
Auto Specified 1

Hide bars below value When not enough bars
 Leave space Resize

► Colors

► Labels

► Counter & totalizer

► Timed captions

► Controls

► Legend

► Axis

► Annotations

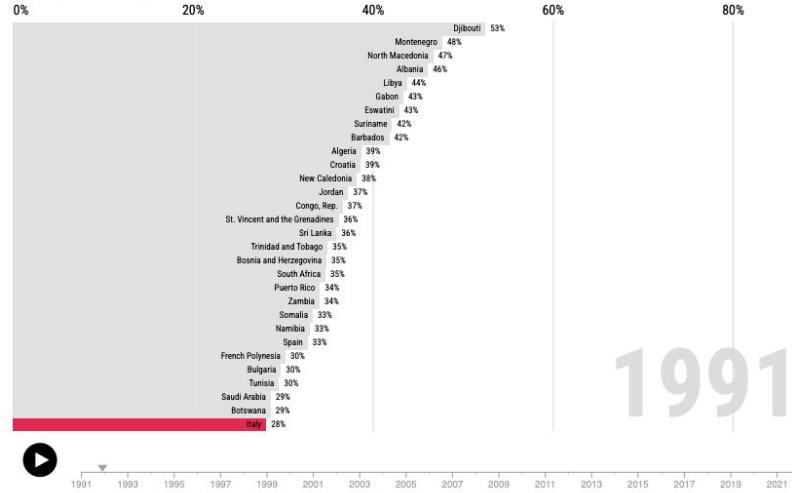
► Timeline & animation

DESCRIBE THE CHART

THE WORLD BANK, Unemployment • Dataviz

Italy often in top 30 countries with higher youth unemployment during 1991 - 2022

Between 1991 and 2018, Italy's youth unemployment rate never went below 24%. The value peaked in 2014, with 43% of youths aged 15 - 24 unemployed: the 11th highest value in the world.



Source: ILO (via World Bank) • Chart by Alice Corona

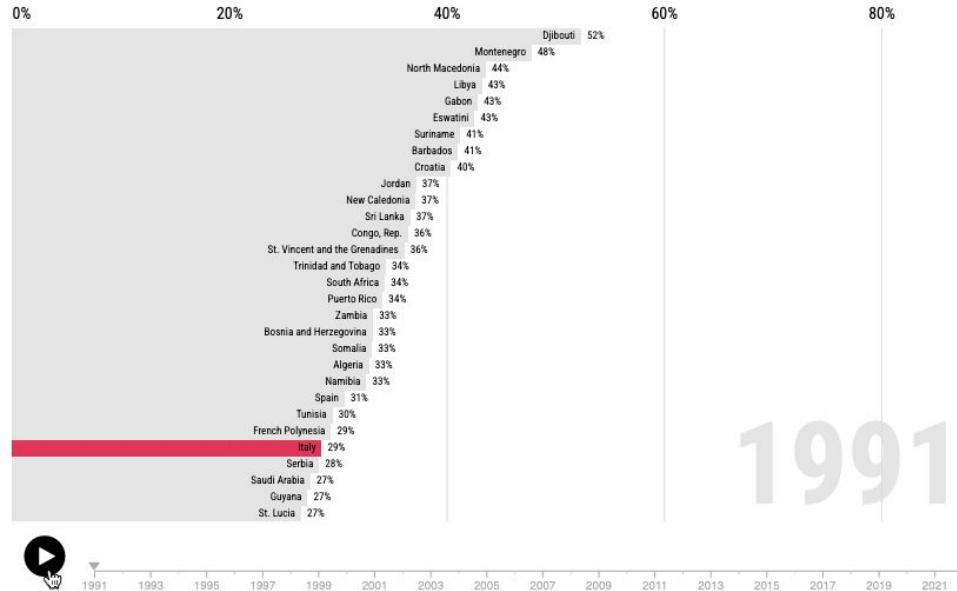
- ▶ Labels
- ▶ Counter & totalizer
- ▶ Timed captions
- ▶ Controls
- ▶ Legend
- ▶ Axis
- ▶ Annotations
- ▶ Timeline & animation
- ▶ Number formatting
- ▶ Layout
- ▼ Header
- Alignment
 -
 -
 -
- TITLE
 - Jth unemployment during 1991 - 2022
 - Change title styles
- SUBTITLE
 -
 - Change subtitle styles
- TEXT
 - Between 1991 and 2018, Italy's youth
 -

PUBLISH THE CHART

THE WORLD BANK, Unemployment • [Dataviz](#)

Italy often in top 30 countries with higher youth unemployment during 1991 - 2022

Between 1991 and 2018, Italy's youth unemployment rate never went below 24%. The value peaked in 2014, with 43% of youths aged 15 - 24 unemployed: the 11th highest value in the world.



exercise time!

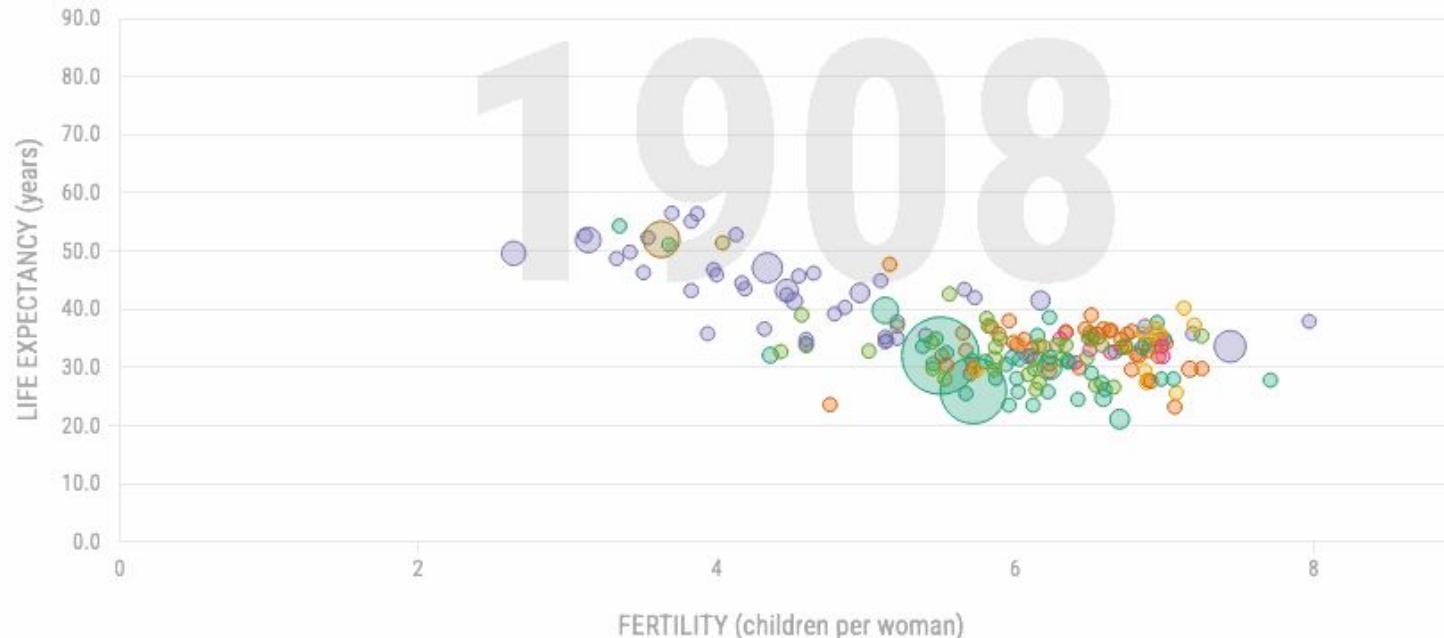
GDP and Fertility rate in Europe and other regions

Data estimates for 2021



1908

Select region Europe Africa Arab States Asia & Pacific Middle east North America South/Latin America



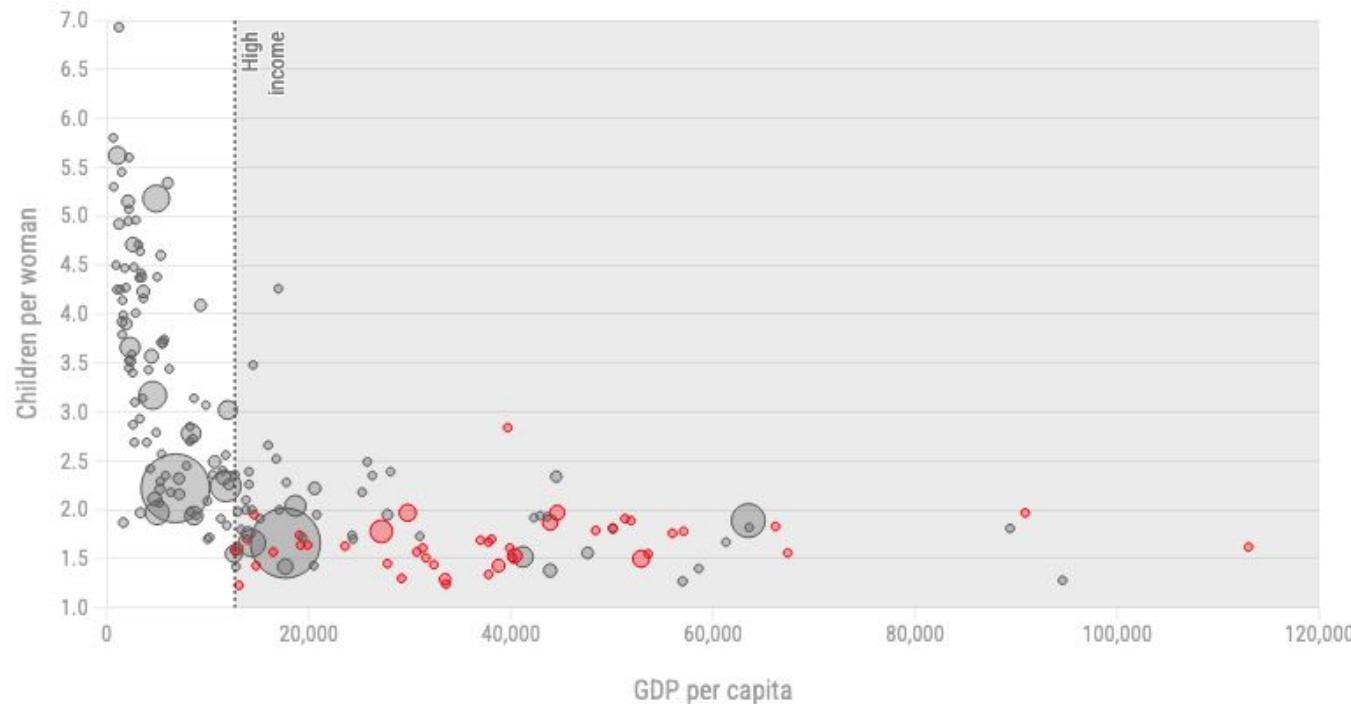
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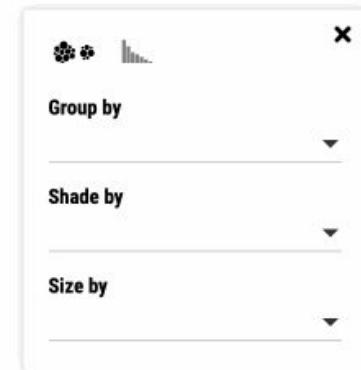
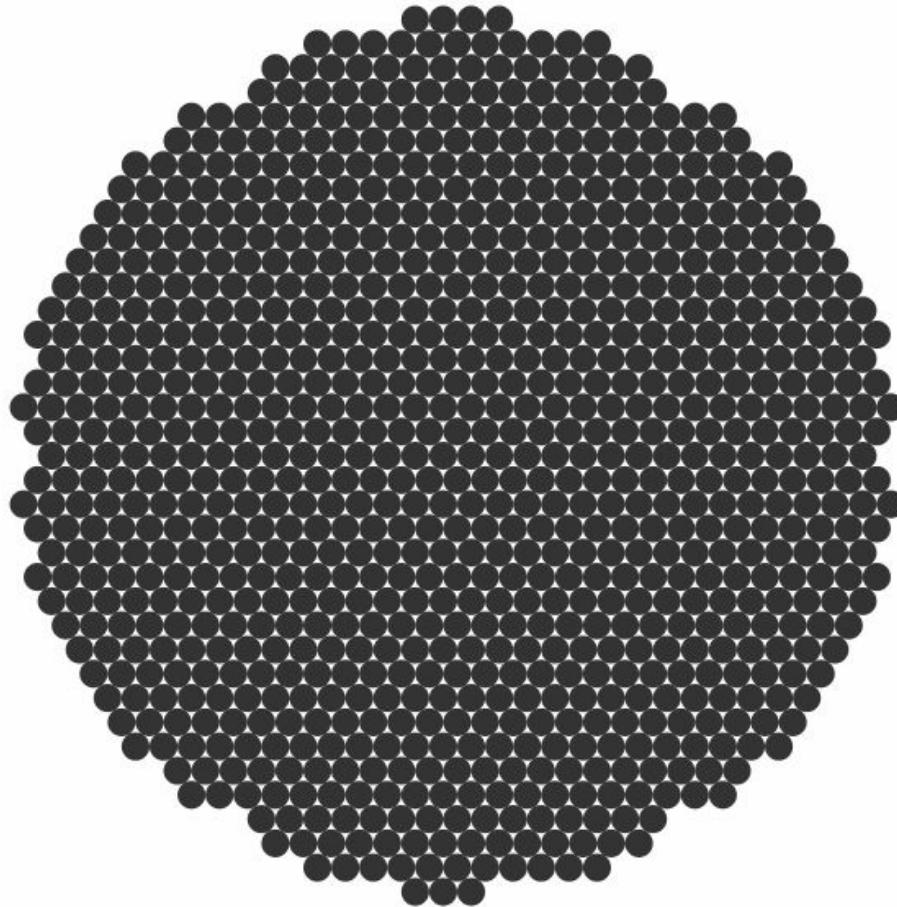
GDP and Fertility rate in Europe and other regions

Data estimates for 2021

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