



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"



ALMA MATER STUDIORUM  
UNIVERSITÀ DI BOLOGNA

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

**LESSON 8 - 03/12/2025**

**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

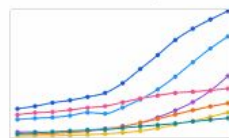
Type

All 3D Animated Areas  
Bars Circles Icons Images  
Interactive content Lines Maps  
Pies Radial Small multiples  
Text

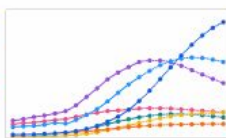
Purpose

All Annotation  
Change over time Comparison  
Correlation Counter  
Distribution Engagement  
Exploration Flow Hierarchy

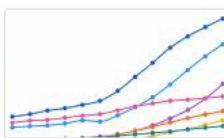
## Line, bar and pie charts



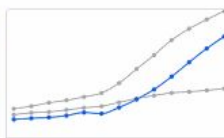
Line chart



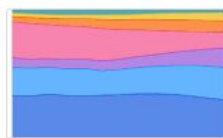
Line chart (projected)



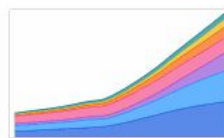
Line chart (searchable)



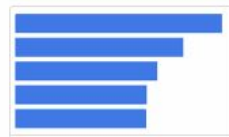
Line chart (with highlight)



Area chart (proportional)



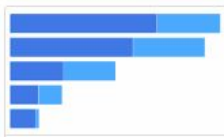
Area chart (stacked)



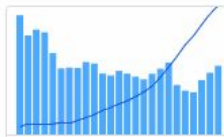
Bar chart



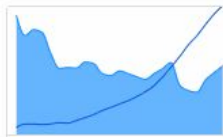
Bar chart (proportional)



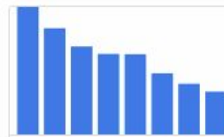
Bar chart (stacked)



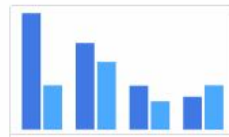
Column + line



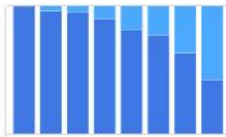
Line + area



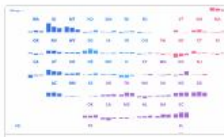
Column chart



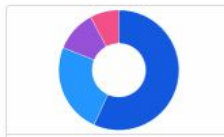
Column chart (grouped)



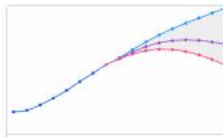
Column chart (proportion...)



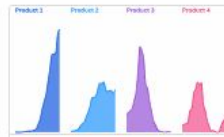
Custom grid (columns)



Donut chart



Fan chart



Grid of area charts



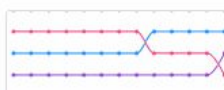
Horizontal bar chart



Stacked bar chart



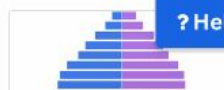
Donut chart



Line chart



Pie chart



Grid of area charts









? Help

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

Livestock units, 1961 and 2019

2019

1961

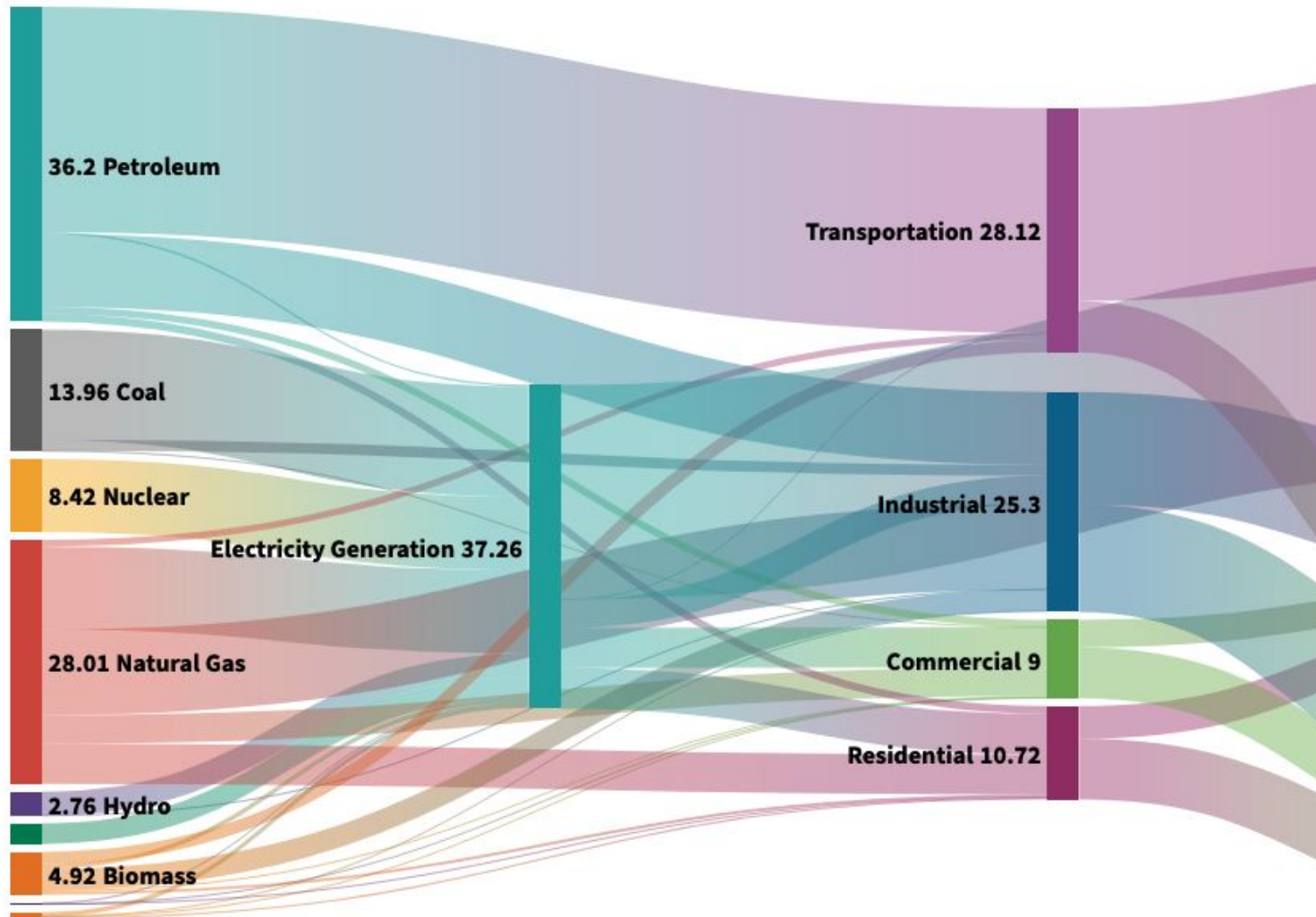
 = 1,000,000 units  Cattle  Chickens  Goats  Horses  Pigs  Sheep  Donkeys



Source: [FAOSTAT](#), [Freepik](#), [The Noun Project](#)

PICTOGRAMS

# SANKEYS

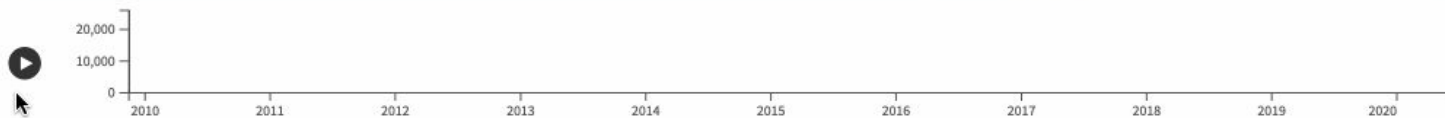
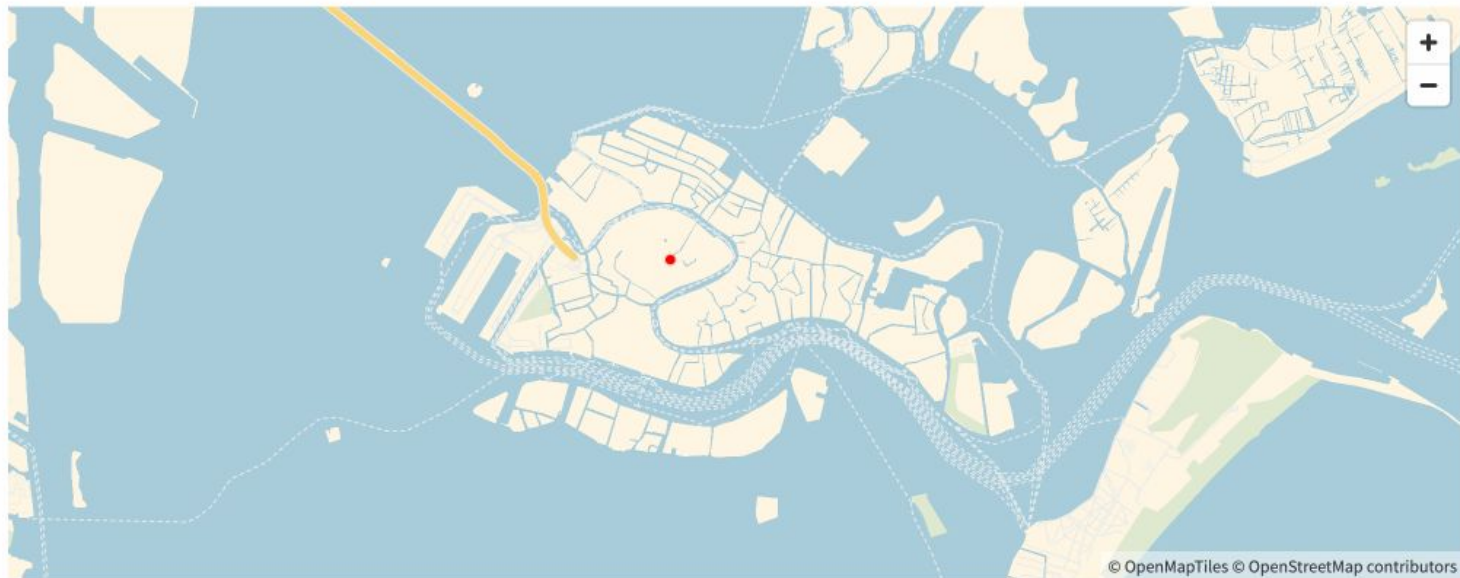


# ANIMATED MAPS

## 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 accommodate 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.



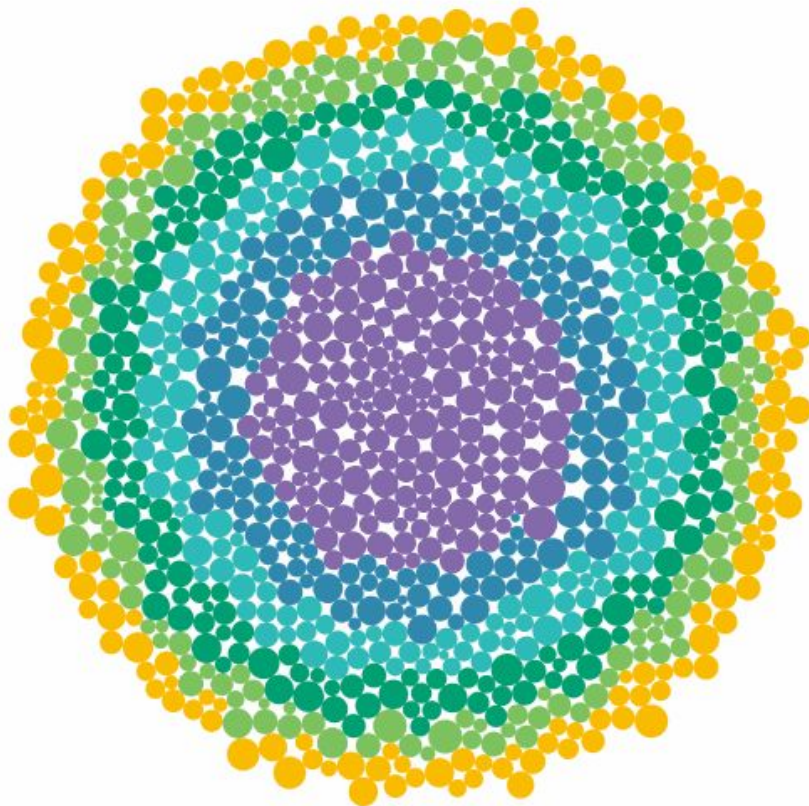
Source: [Inside Airbnb](#) • Map by Alice Corona





1 of 8

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

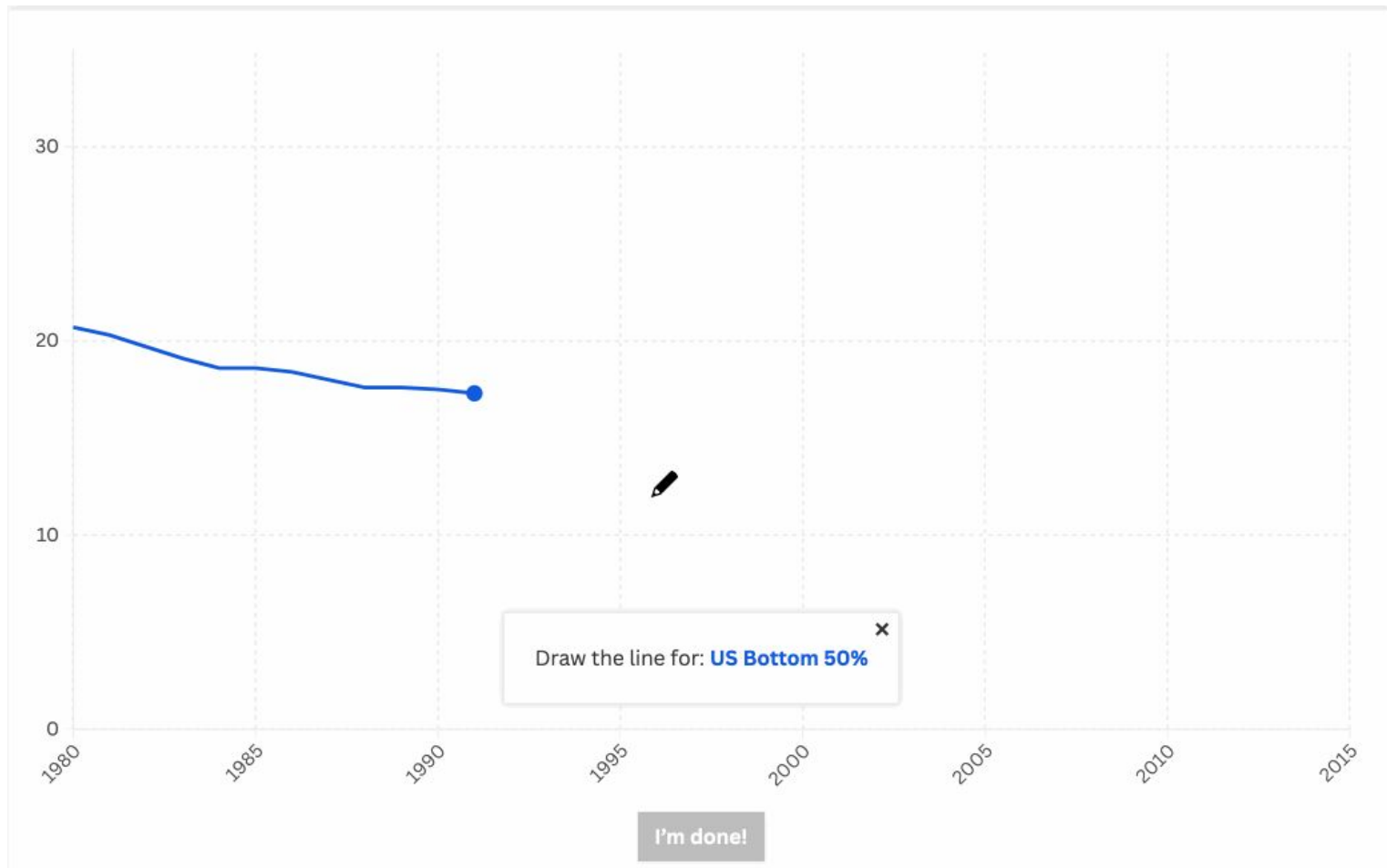


# DATA EXPLORERS





**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~~

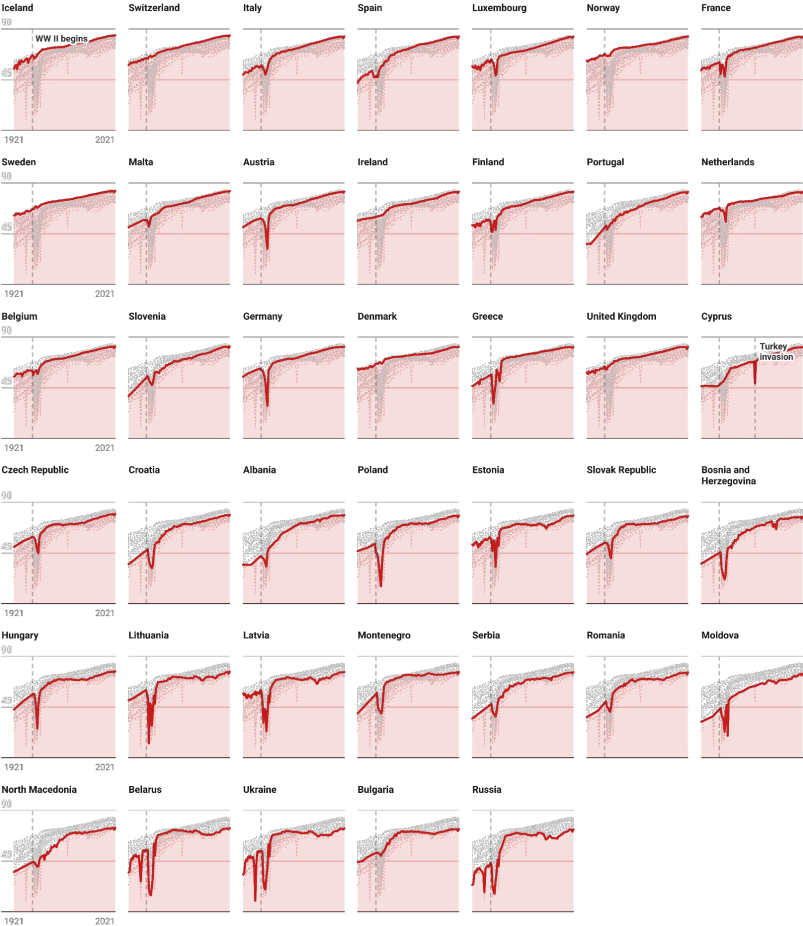


-  you need filters
-  you need animations
-  you need transitions / slide storytelling
-  you need interactive maps with a basemap background and zoom controls.

# 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

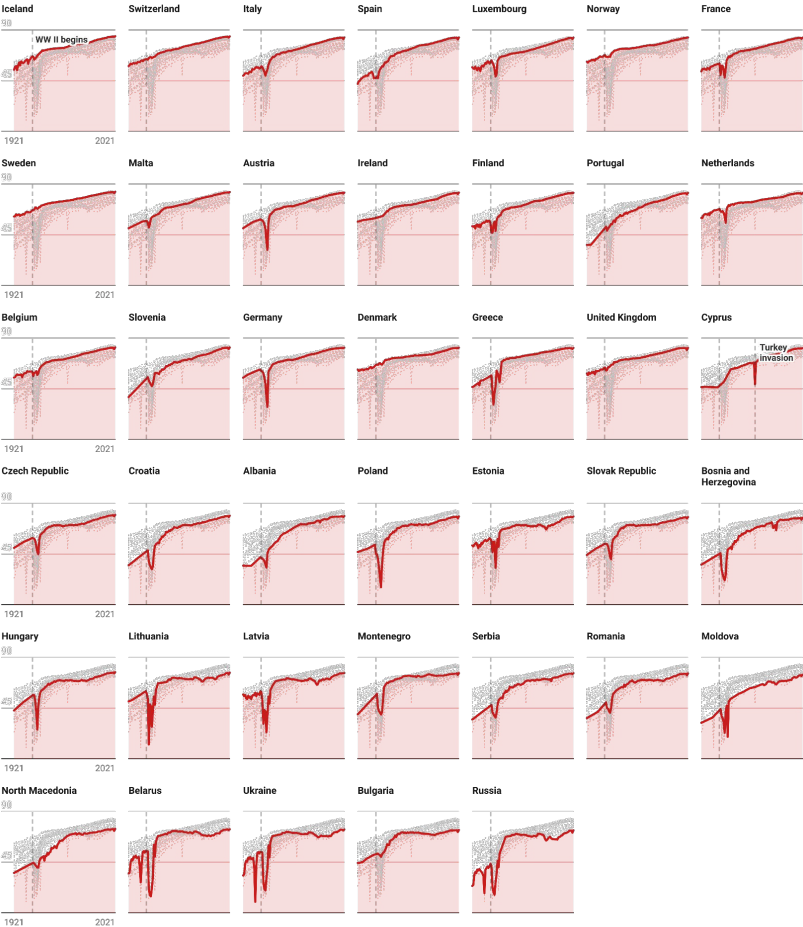
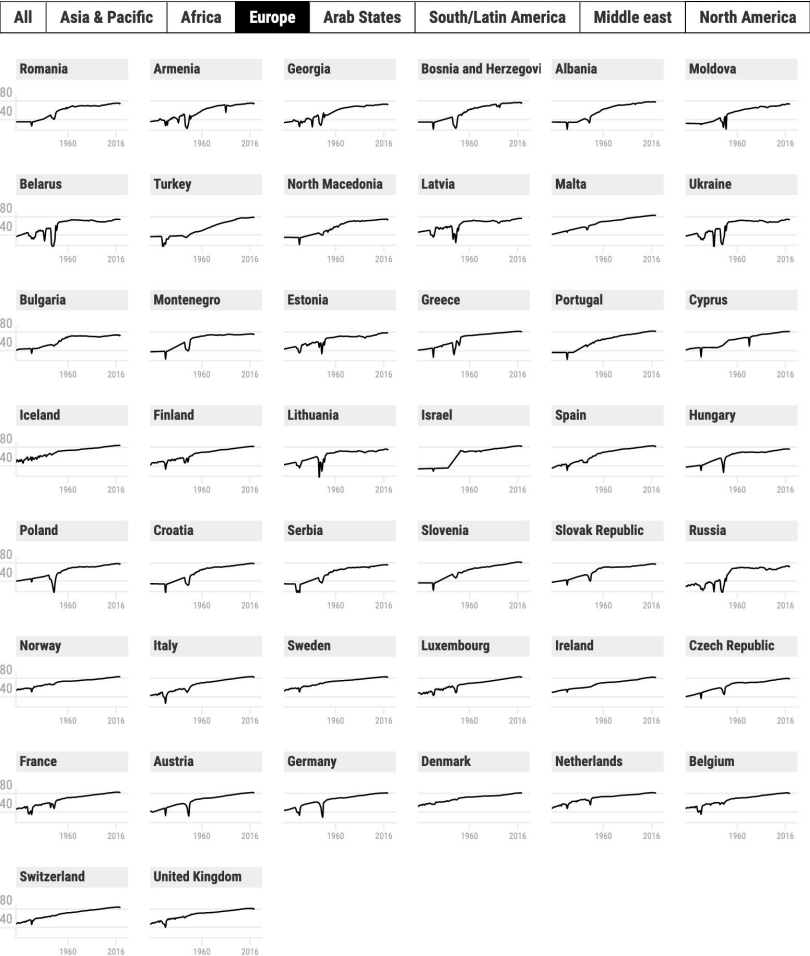


Chart: Alice Corona - Source: World Bank - Created with Datawrapper

Life expectancy in the world between 1900 - 2021



Source: World Bank's Gender - Chart by Alice Corona

# FIND THE DATA

THE WORLD BANK LIFE EXPECTANCY • Origin



Data

This page in: [English](#) [Español](#) [Français](#) [العربية](#) [中文](#)

Life expectancy at birth, t...

Search data e.g. GDP, population, Indonesia

[DataBank](#) [Microdata](#) [Data Catalog](#)

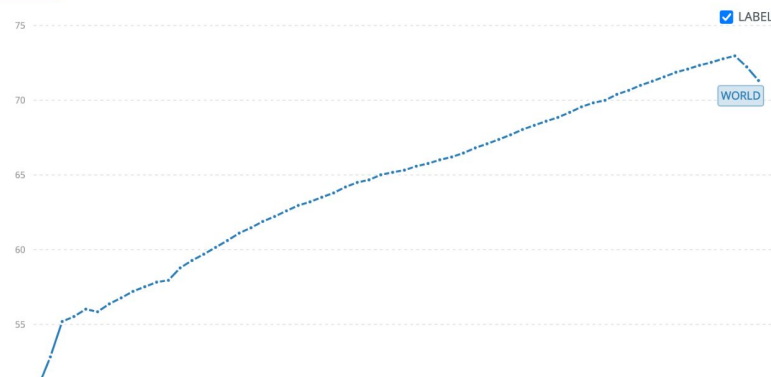
## Life expectancy at birth, total (years)

( 1 ) United Nations Population Division. World Population Prospects: 2022 Revision, or derived from male and female life expectancy at birth from sources such as: ( 2 ) Census reports and other statistical publications from national statistical offices, ( 3 ) Eurostat: Demographic Statistics, ( 4 ) United Nations Statistical Division. Population and Vital Statistics Reprot ( various years ), ( 5 ) U.S. Census Bureau: International Database, and ( 6 ) Secretariat of the Pacific Community: Statistics and Demography Programme.

License : CC BY-4.0

[Line](#) [Bar](#) [Map](#)

[Share](#) [Details](#)



Life expectancy at birth, male (years)	
Life expectancy at birth, female (years)	
Survival to age 65, female (% of cohort)	
Death rate, crude (per 1,000 people)	
Contraceptive prevalence, any method (% of married women ages 15-49)	
Mortality rate, adult, male (per 1,000 male adults)	
Mortality rate, infant (per 1,000 live births)	
Mortality rate, infant, male (per 1,000 live births)	



Download

[CSV](#) [XML](#) [EXCEL](#)



# PREPARE THE DATA

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

	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](#)

Preview				Data			
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			

# FORMAT THE DATA

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

Upload data

Data

SELECT COLUMNS TO VISUALISE

Labels/time

REQUIRED

B

Values

C

Charts grid

A

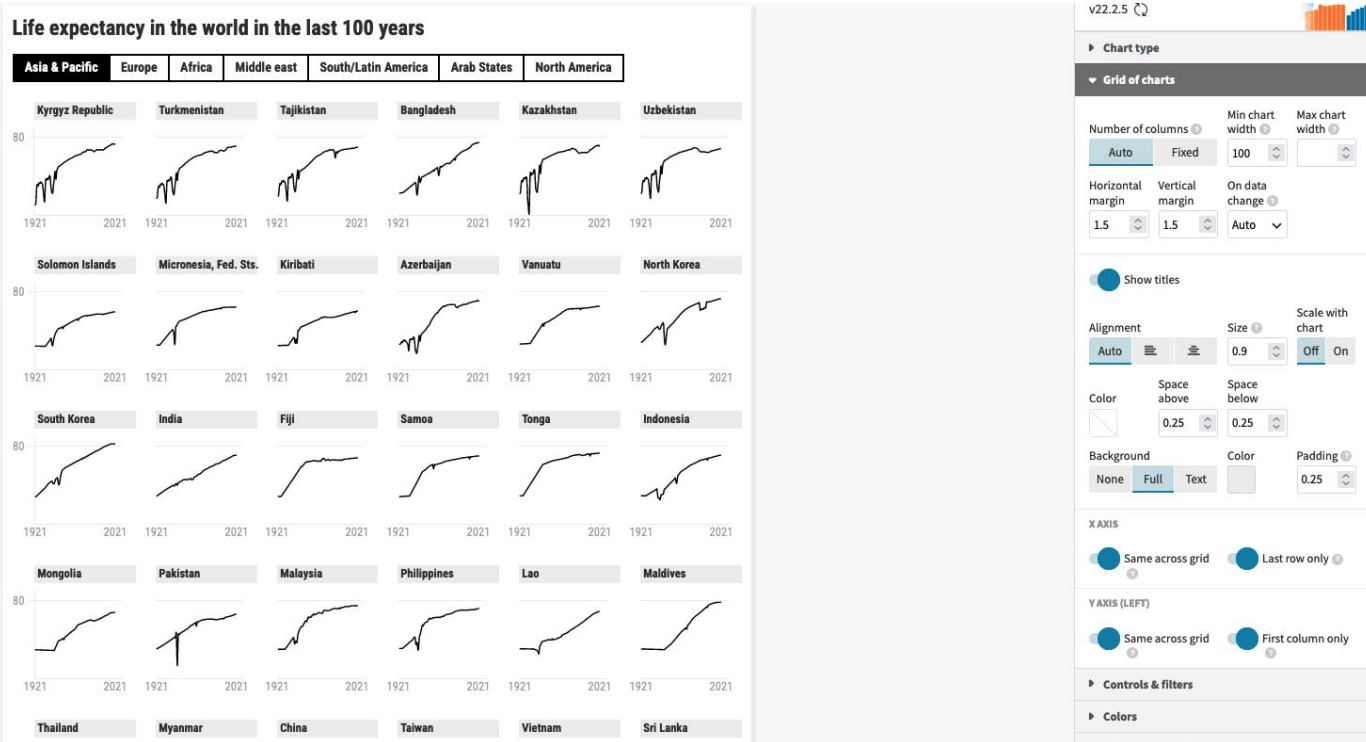
Row filter

D

Info for custom popups

# FORMAT THE CHART

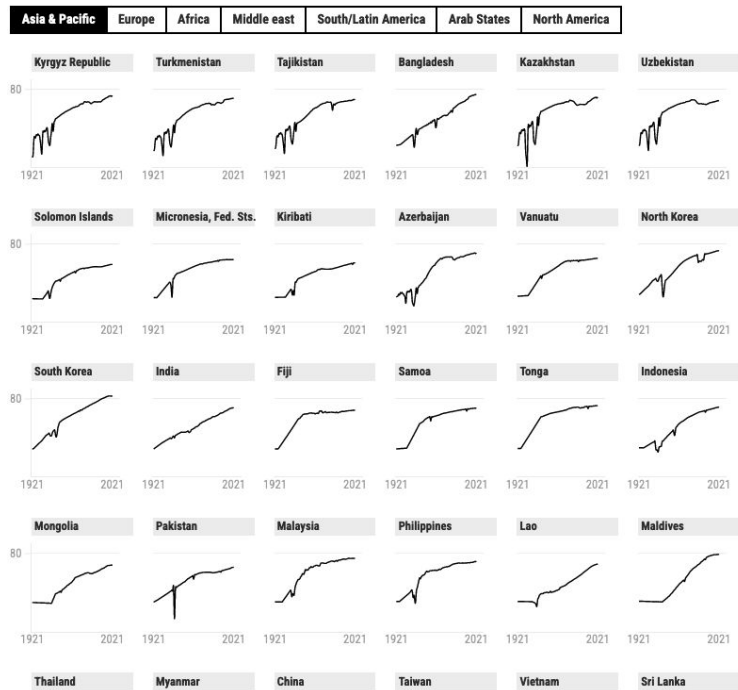
THE WORLD BANK LIFE EXPECTANCY • [Dataviz](#)



# DESCRIBE THE CHART

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

## Life expectancy in the world in the last 100 years



Popups

Annotations

Animations

Layout

Header

Alignment



TITLE

Life expectancy in the world in the las

☐ Change title styles

SUBTITLE

☐ Change subtitle styles

TEXT

☐ Styling

BORDER

None

LOGO/IMAGE

Enabled

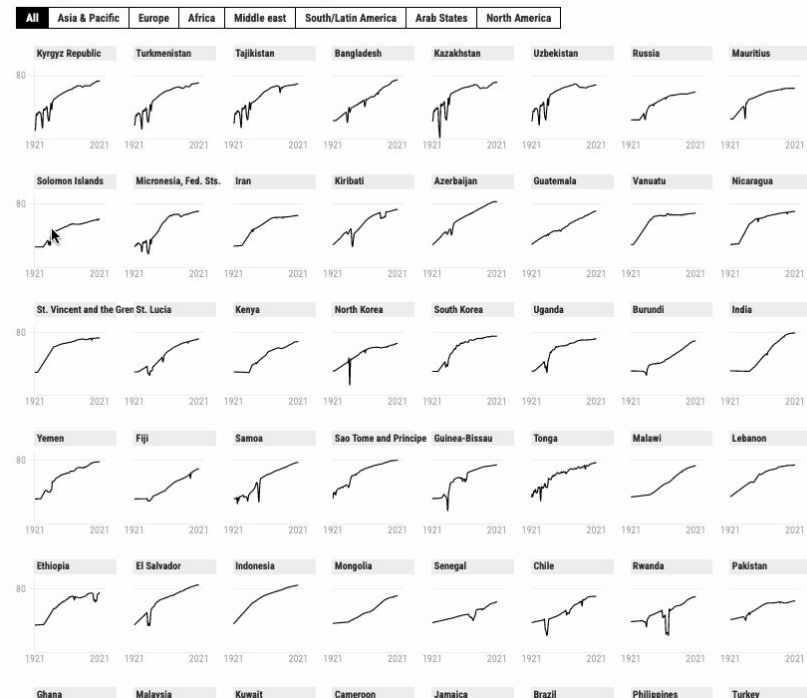
Disabled

Footer

# PUBLISH THE CHART

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

## Life expectancy in the world in the last 100 years

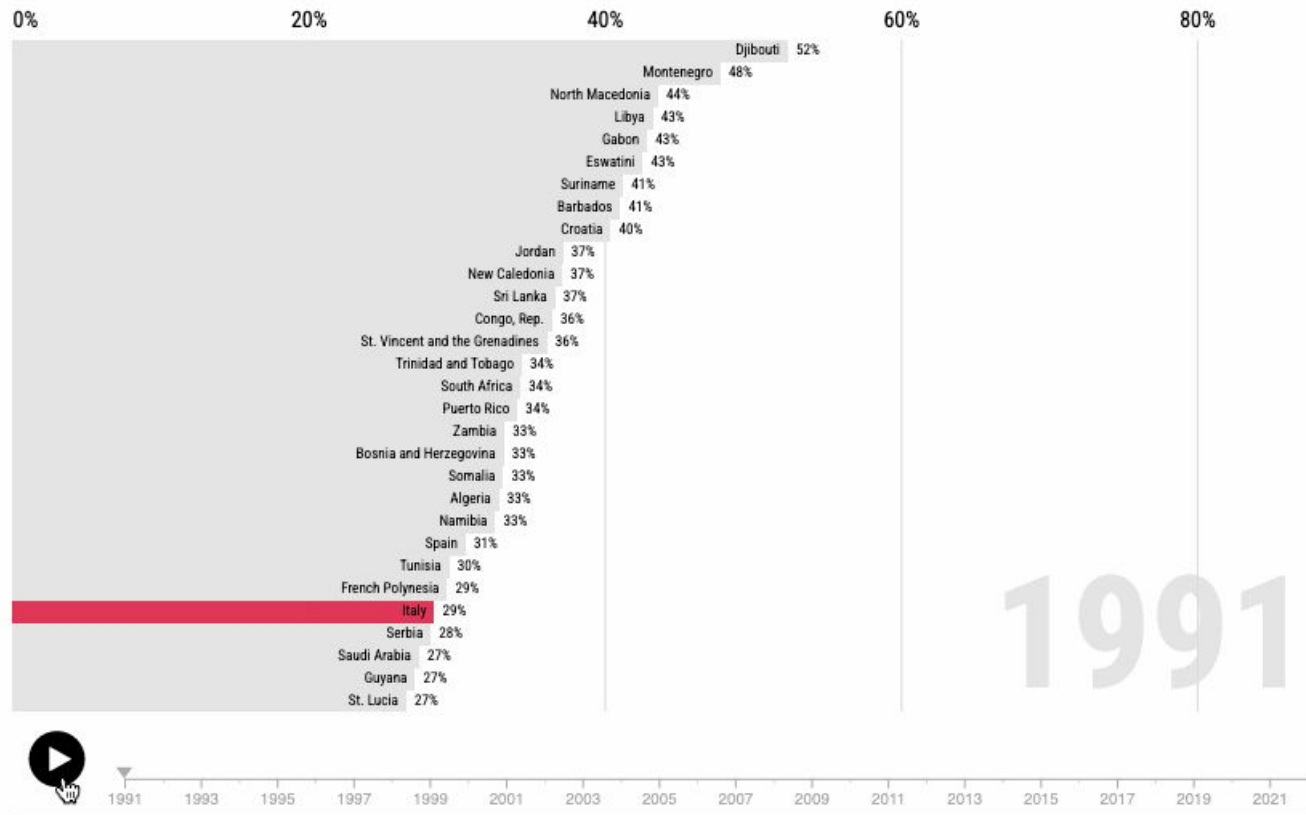




# ANIMATIONS

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

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



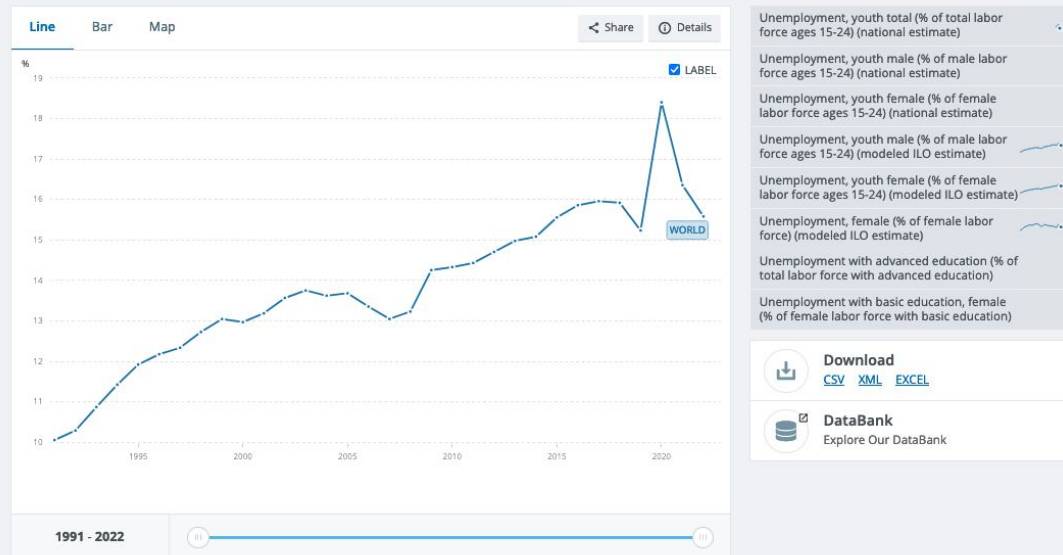
# FIND THE DATA

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

## Unemployment, youth total (% of total labor force ages 15-24) (modeled ILO estimate)

International Labour Organization. "ILO Modelled Estimates and Projections database ( ILOEST )" ILOSTAT. Accessed September 05, 2023. [ilostat.ilo.org/data](https://ilostat.ilo.org/data).

License : CC BY-4.0 [O](#)



# 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 <span>▼</span> Captions																	17
↕	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	60.00
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	46.00
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	53.00
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	38.00
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	32.00
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	41.00
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	30.00
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	33.00
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	33.00
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	32.00

Upload data ▼

Saved ↺ C

Data

SELECT COLUMNS TO VISUALISE

Label ? REQUIRED

A

Values ?

D-AI

Categories ?

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 50 countries with higher youth unemployment during 1991 - 2022

Source: WB Youth Unemployment in top 50 countries with higher youth unemployment 1991 - 2022. The data is in 1991, with 45% of youth aged 15-24 unemployed in 1991, and 45% in 2022.

# FORMAT THE DATA

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

Upload data

Saved

Data

SELECT COLUMNS TO VISUALISE

Label ? REQUIRED

A

Values ?

D-AI

Categories ?

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

A

Image ?

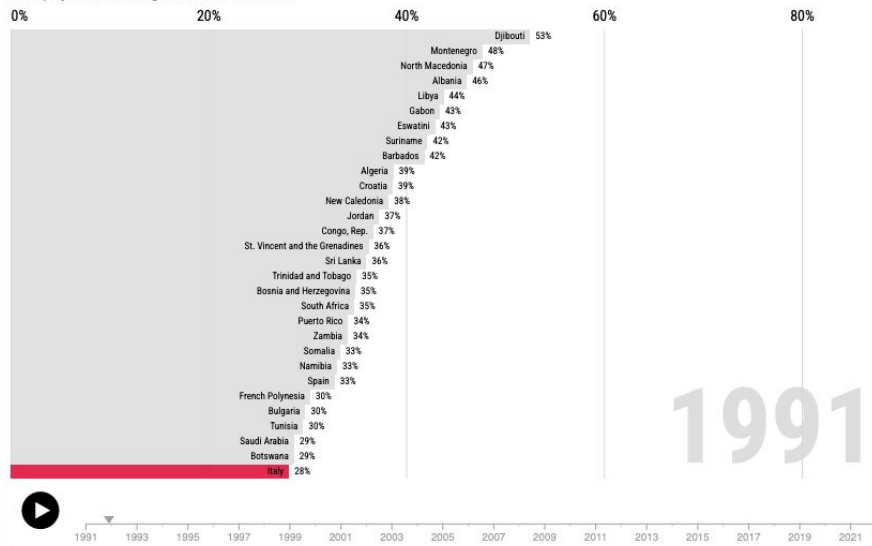


# FORMAT THE CHART

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 reate 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

#### Setup

##### Chart style

Horizontal Vertical

No. bars  
30

Spacing  
(%)  
1

##### Sorting

On Off

##### Sort mode

Ascending Descending

Show advanced

##### Bar height

Auto Specified

##### Height

1

##### Hide bars below value

##### When not enough bars

Leave space Resize

#### Colors

#### Labels

#### Counter & totalizer

#### Timed captions

#### Controls

#### Legend

#### Axis

#### Annotations

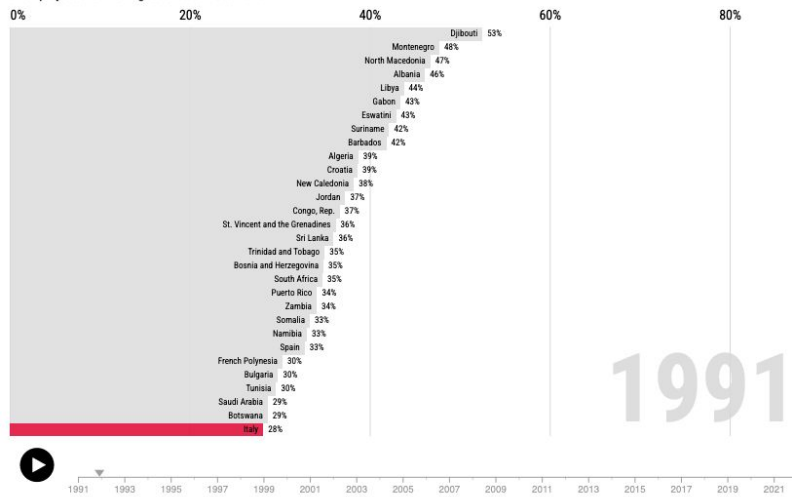
#### Timeline & animation

# 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 reate 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

yth unemployment during 1991 - 2022

Change title styles

SUBTITLE

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TEXT

Between 1991 and 2018, Italy's youth

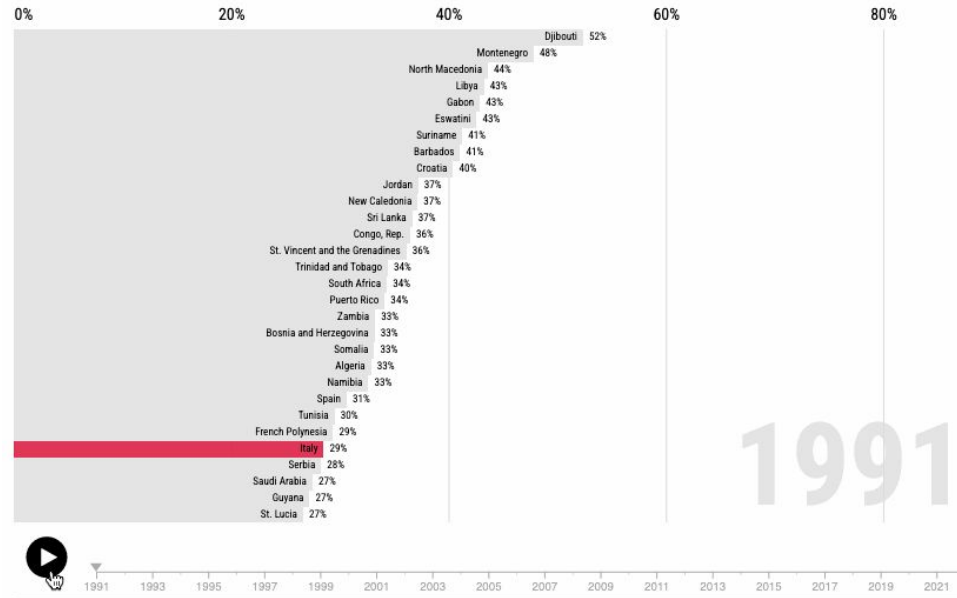
Styling

# PUBLISH THE CHART

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*exercise time!*

# GDP and Fertility rate in Europe and other regions

Data estimates for 2021



1908

Select region



Europe



Africa



Arab States



Asia & Pacific



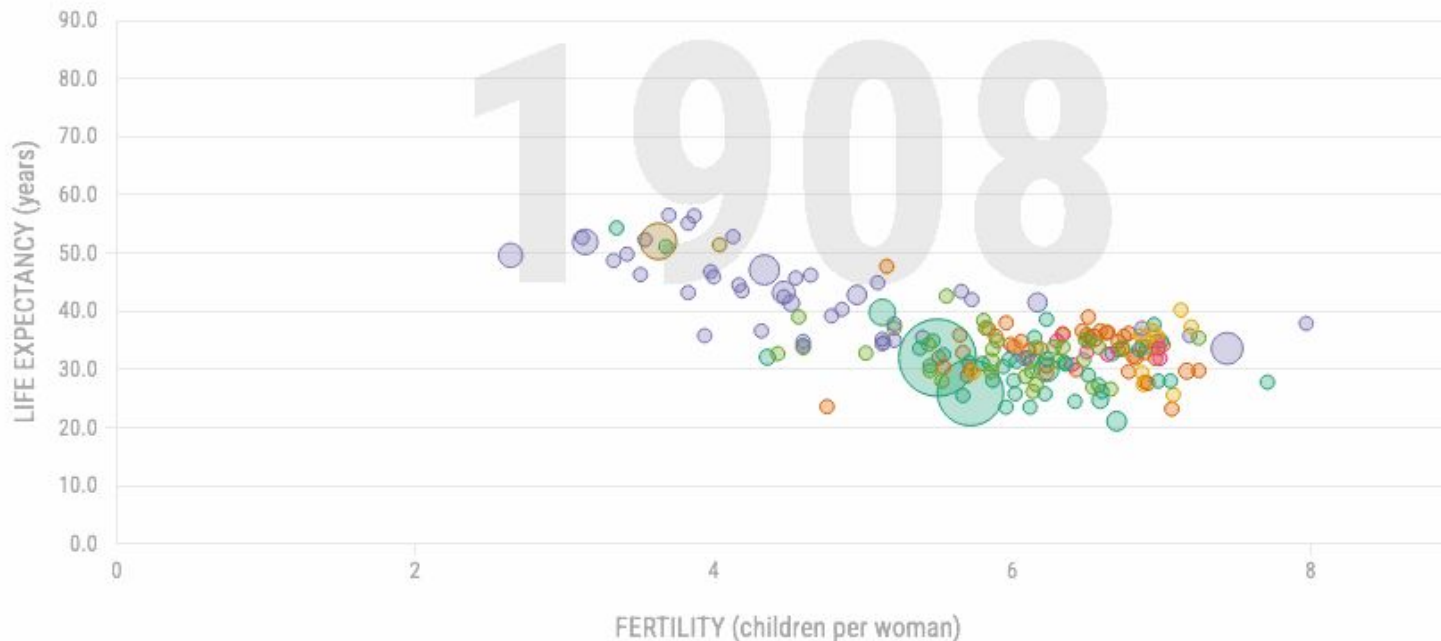
Middle east



North America



South/Latin America



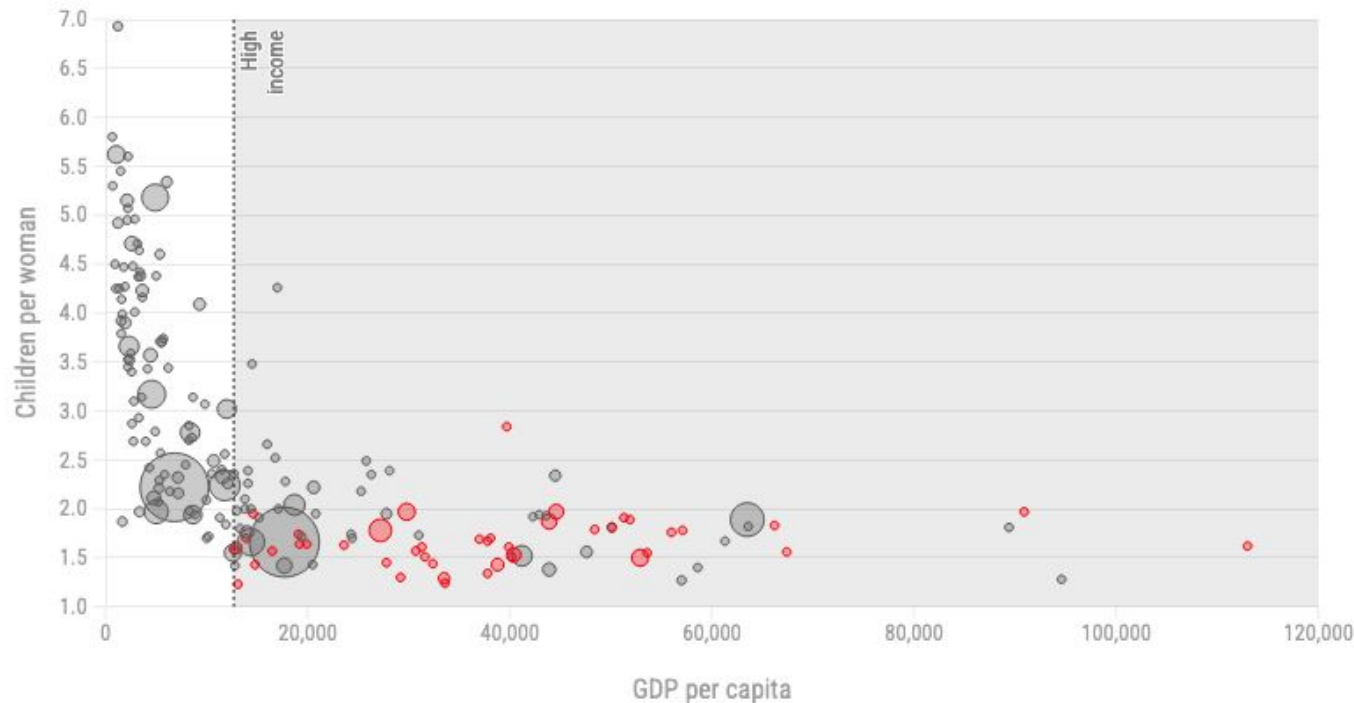
Source: [WORLD BANK VIA GAPMINDER.ORG](https://www.worldbank.org/) • CC-BY LICENSE

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# GDP and Fertility rate in Europe and other regions

Data estimates for 2021

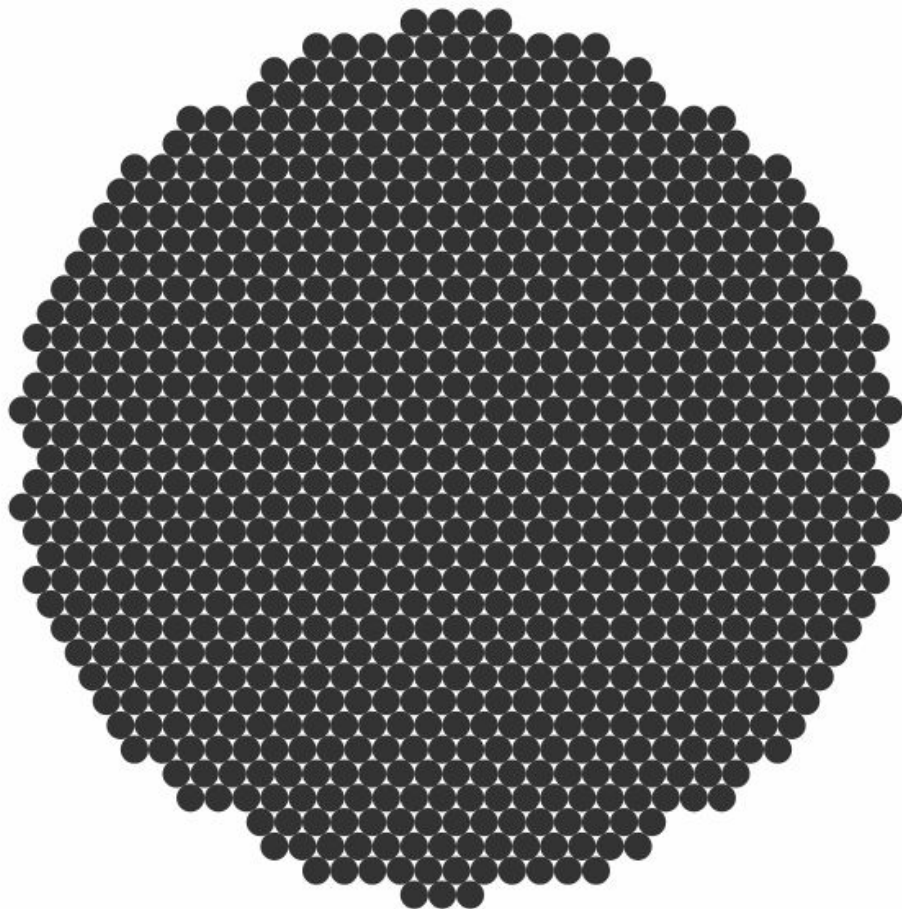
Select region ■ Europe ■ Africa ■ Arab States ■ Asia & Pacific ■ Middle east ■ North America ■ South/Latin America






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## Youth unemployment rates very significantly across the globe...

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