



The Illusion Coupe Can We Ignore Population in the Climate Debate?

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The champagne coupe graph

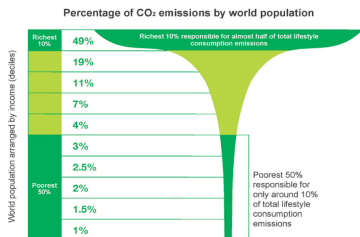


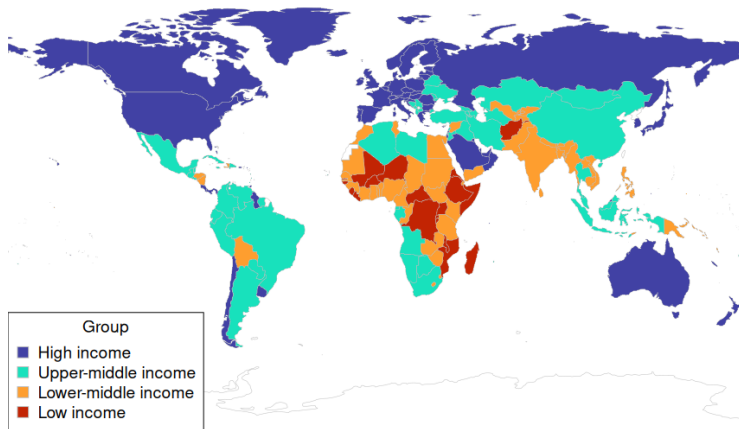
Figure: Source: Oxfam report 2015.
Confirmed by Chancel (*Nature Sustainability*) 2022.

Used to support the argument:

“Population growth is not a problem for climate change because population is mainly growing in poor countries, while most emissions come from rich countries where population does not grow”

Is this argument valid? Is the graph correctly interpreted? Does the graph tell the whole story?

Income-based country groups: in which group is population growing?



High income ($> 14,005$ current US\$ average GNI/capita): 15.6% of global population; **upper-middle income** (4,516 – 14,005): 34.7%; **lower-middle income** (1,146 – 4,515): 40.2%; **low income** ($< 1,146$): 9.0%.

Population and CO₂ emissions 1994–2023

Group	Δ pop	Δ emissions per-capita	Δ emissions tot	Emission 2023 per-capita	Emissions 2023 tot
High income	+202 M (+19%)	-2.12 t	-620 Mt (-4%)	9.83 t	13.9 Gt 36% of glob.
Upper middle	+562 M (+25%)	+3.35 t	12.1 Gt (+191%)	6.01 t	18.5 Gt 48%
Lower middle	+1.24 G (+61%)	+0.76 t	+3.1 Gt (+224%)	1.55 t	4.5 Gt 12%
Low income	+407 M (+124%)	-0.20 t	+49.1 Mt (+31%)	0.28 t	0.21 Gt 0.54%

Data source: Ourworldindata.

Contradiction or misinterpretation? Country-level vs individual-level approach

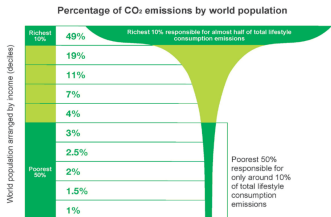


Figure: The Champagne Coupe Graph does not refer to countries but to individuals

TOP 10% in:

country-level approach = 800 million people living in the richest countries in the world

individual-level approach = 800 million richest people in the world living across all countries

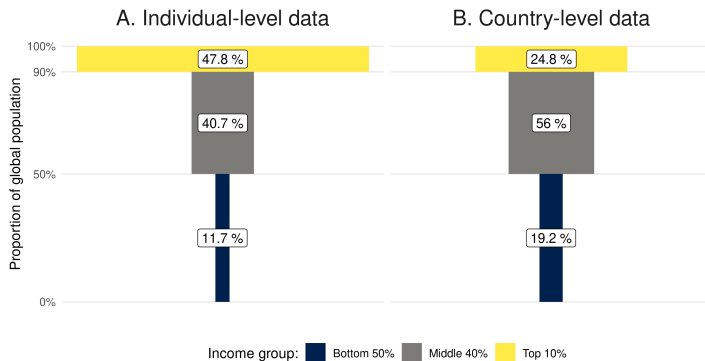
These 2 groups overlap but are not the same

There are also poor people in rich countries and, vice versa, rich people in poor countries (e.g. Aliko Dangote)!



Champagne coupe vs champagne flute graph

Depending on the approach, the resulting shape of the graph can be different



Most emissions come from middle-income countries, which are also the countries where – in absolute numbers– population is growing the most!

Cutting consumption of the richest: solution or illusion?

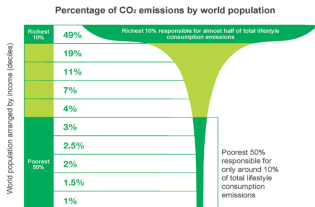


Figure: Wherever they live, the richest 10% produce almost half of the global emissions. Would cutting their consumption solve climate change?

- ▶ The graph is based on **self-reported consumption expenditures** (poor reliability) converted into emissions using **I/O tables** (sharply criticized in the scientific literature, Pottier 2022)
- ▶ A large part of emission of the rich does not come from consumption but from **investments**

Cutting consumption is not enough; investments need to be cut too.

Three questions about investments

1. Why do rich people invest so much?
 - ▶ They are economically convenient
2. Why are investments economically convenient?
 - ▶ Billion people are willing to pay for goods and services produced through investments
3. Who are responsible for investment-related emissions?
 - ▶ Investors or final users/consumers or both?

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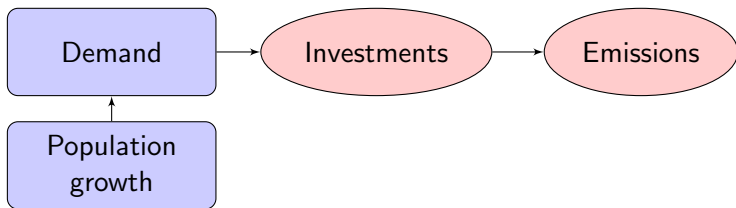


Oxfam attributed 100% of investment-related emissions to **investors**. The Coupe shape of the graph strongly depends on this attribution choice.



Is cutting investments a solution?

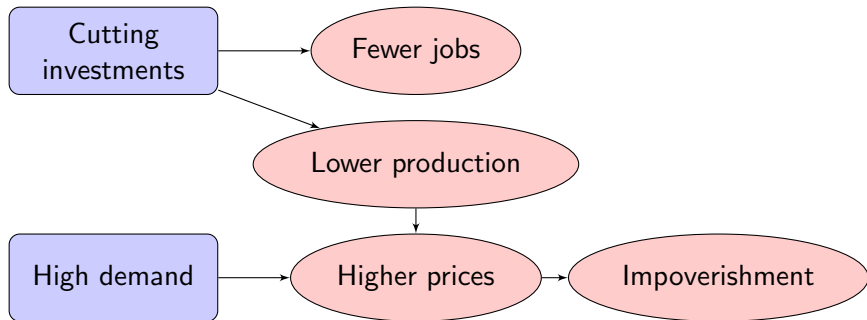
- ▶ Cutting investments is difficult because they are driven by a widespread demand for goods and services.



- ▶ Investments are necessary to maintain efficiency of production and distribution systems. Some investments can even improve efficiency and save energy (e.g. **green technology**)
⇒ cutting investments may backfire for the environment.

Connections

- ▶ **In the graph**, emissions from different groups appear separate giving the illusion it is possible to reduce the emissions of one group without affecting the others
- ▶ **In the real world**, emissions are deeply interconnected



Connections

Consumption example: what happens if we eliminate private jets?



We wouldn't penalize only billionaires travelling in private jets, but also all the people working to produce, maintain and fly private jets.

Many pilots would end up without a job.
Unless...



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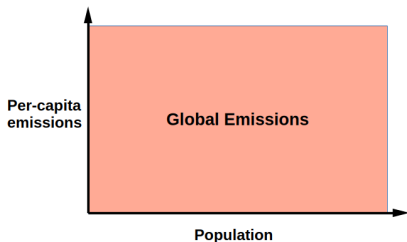
...unless there were also fewer pilots.

Fewer people is a way to decrease consumption without increasing unemployment.

A shrinking population

A shrinking population is a way to **directly** reduce one factor of global emissions.

Indirectly, it is also a way to make it easier to reduce the other factor.



It makes it easier to scale down our economies without too many unwanted effects (such as unemployment).

Scaling down economy $\implies$ lower per-capita emissions, since the two things are positively correlated.

Conclusion

Why is there such a strong reluctance to recognize population role and adress demographic problem?

Is it because of:

- ▶ fear of coercive policies like in China?
- ▶ fear of being accused of imperialism?
- ▶ fear of an ageing population?
- ▶ ...other?

Thank you for your attention!

Main references

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