

Temporary shock or lasting scar?

Life expectancy trajectories since COVID-19

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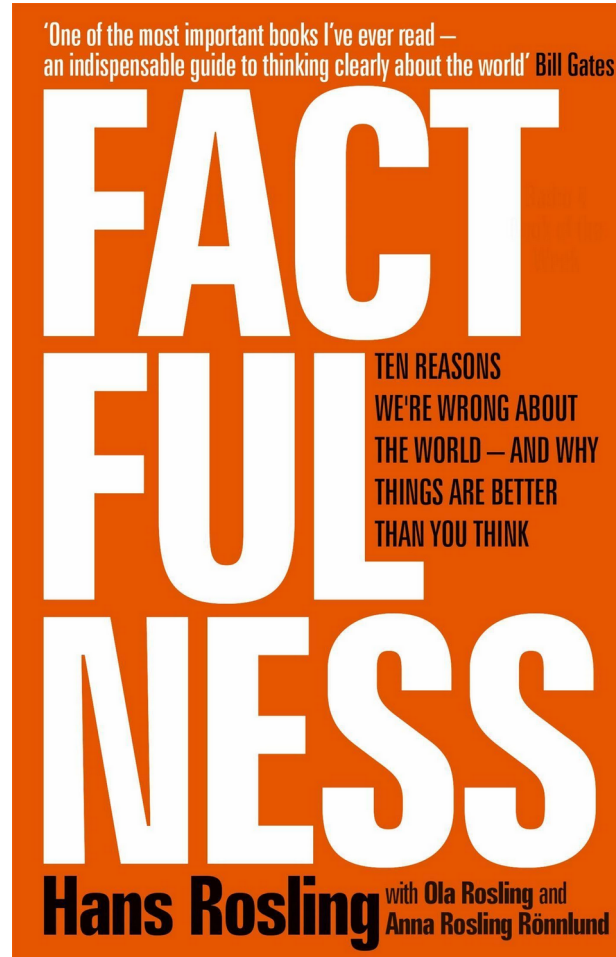
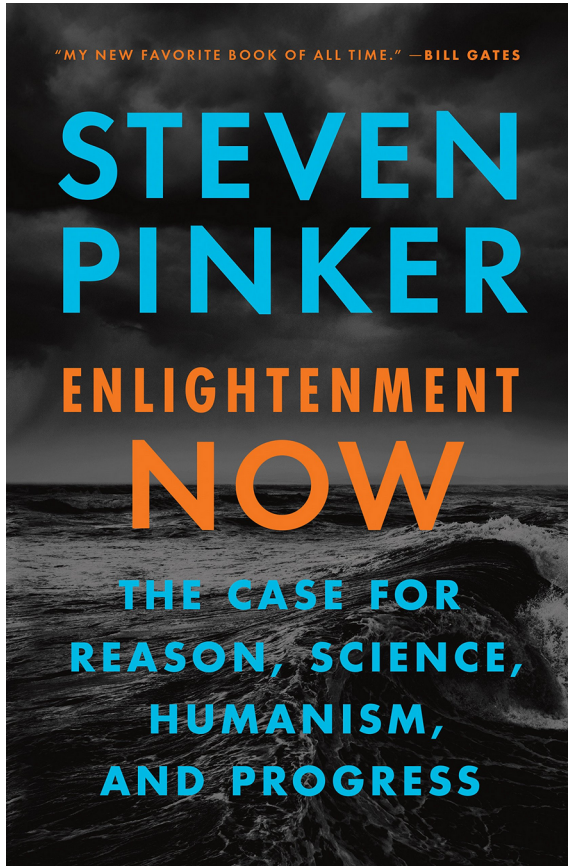


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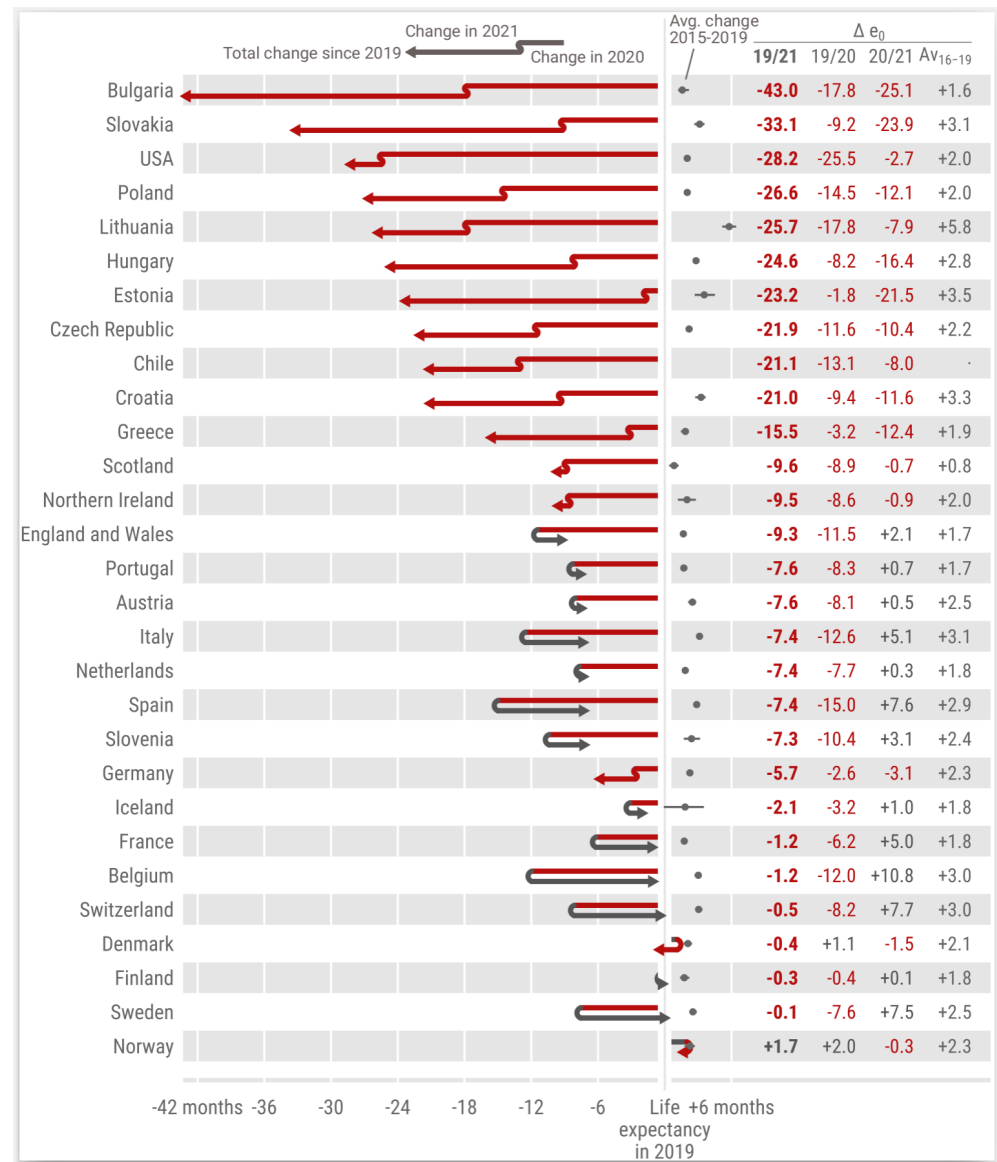
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e0 as a proxy for progress



The world in 2021

Schöley et al. (2022). Life expectancy changes since COVID-19.
[10.1038/s41562-022-01450-3](https://doi.org/10.1038/s41562-022-01450-3)



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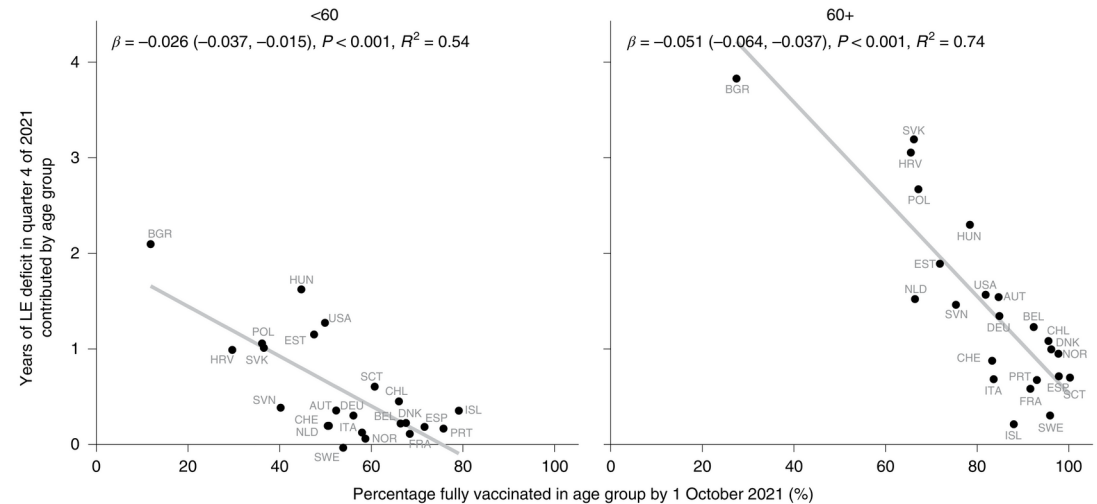
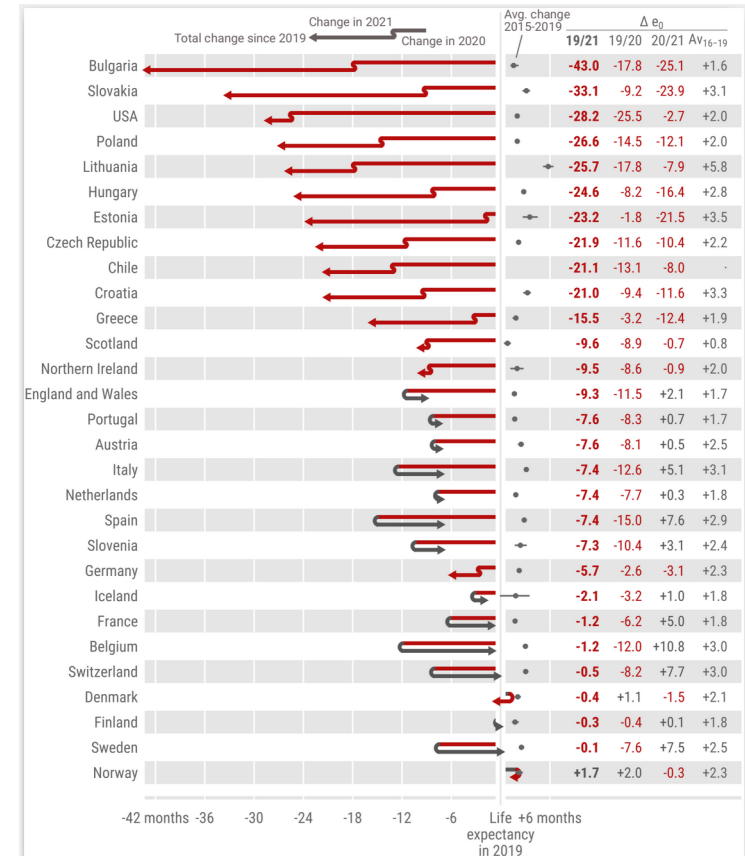
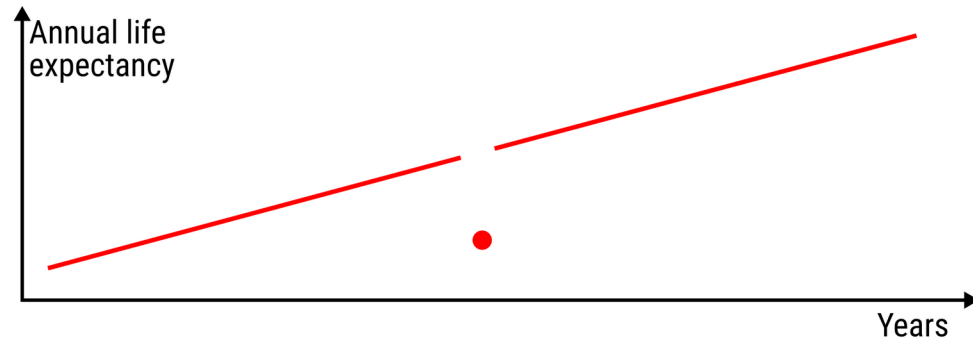


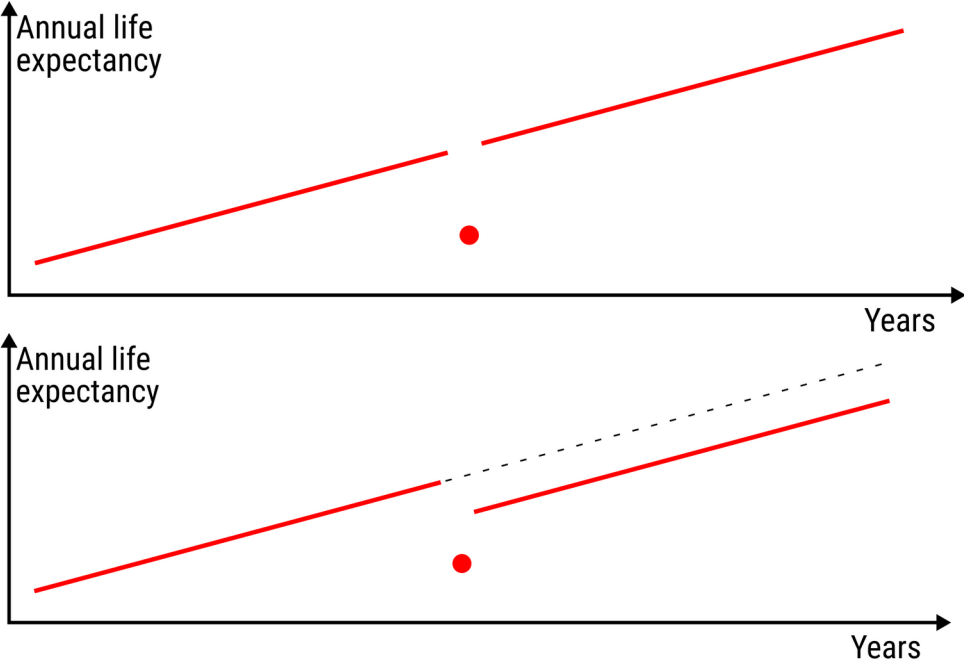
Fig. 5 | Years of LE deficit in October through December 2021 contributed by ages <60 and 60+ against percentage of population twice vaccinated by 1 October in the respective age groups. LE deficit is defined as the counterfactual

LE from a Lee-Carter mortality forecast based on death rates for the fourth quarter of the years 2015 to 2019 minus observed LE. The points are labelled with ISO three-letter country codes.

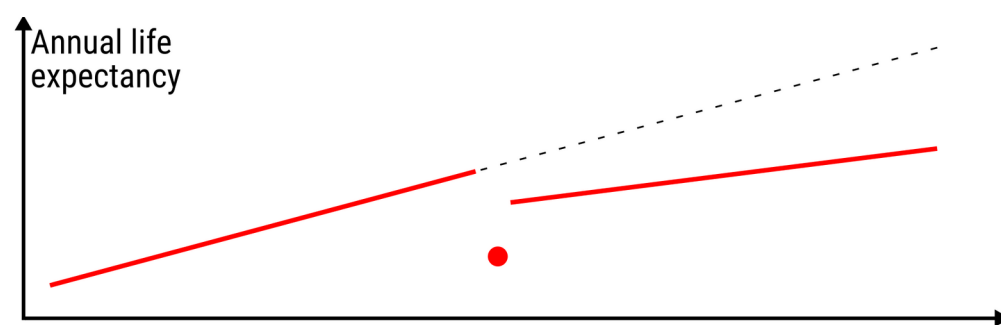
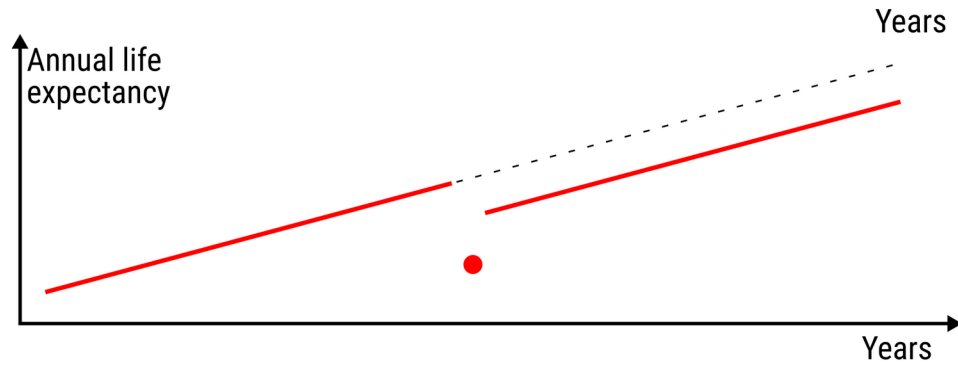
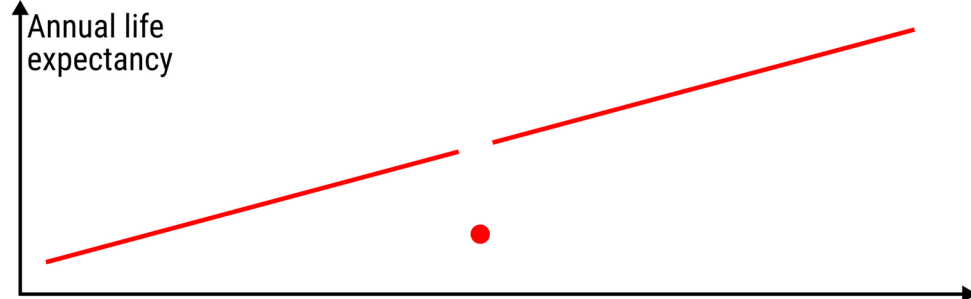
Life expectancy deficits



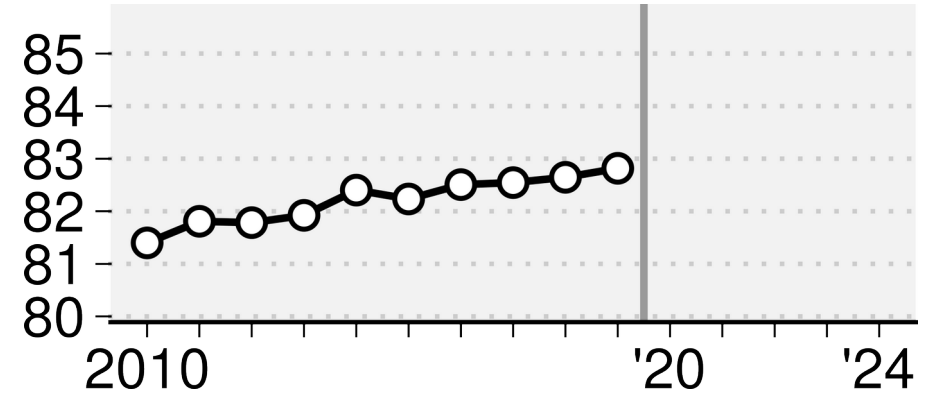
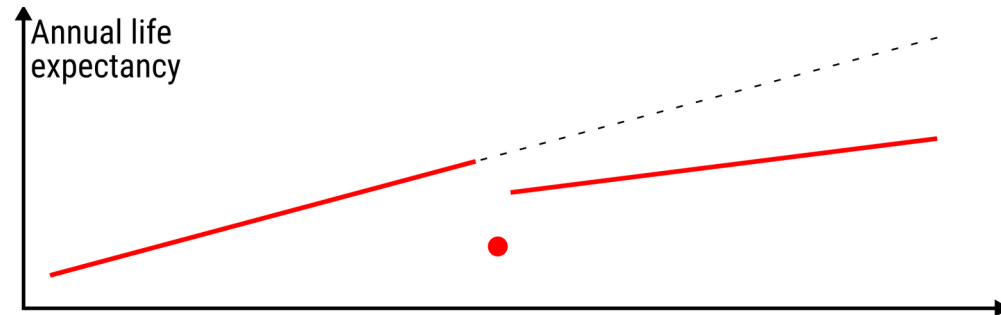
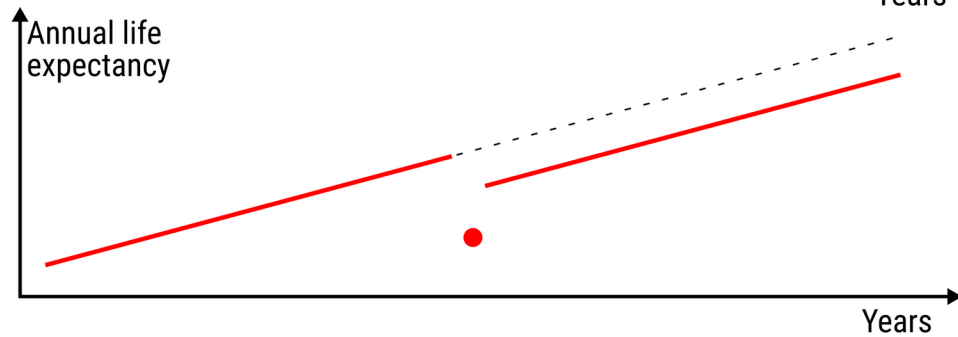
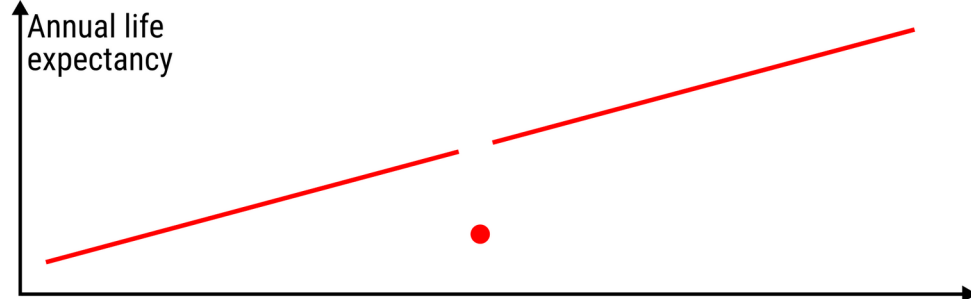
Life expectancy deficits



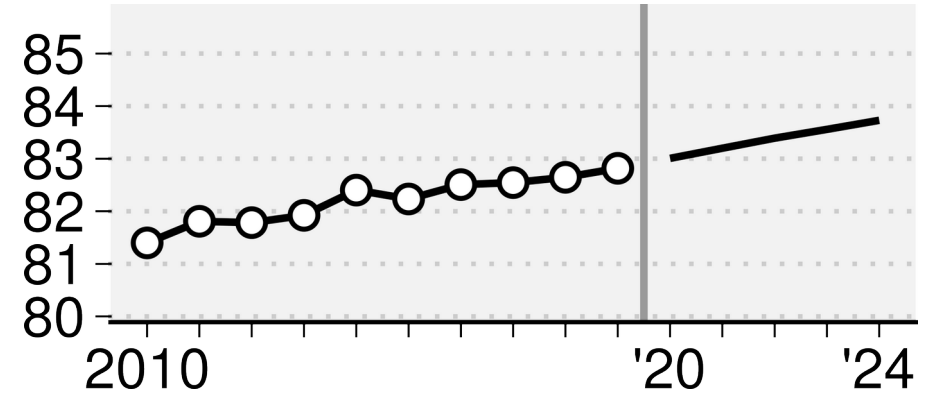
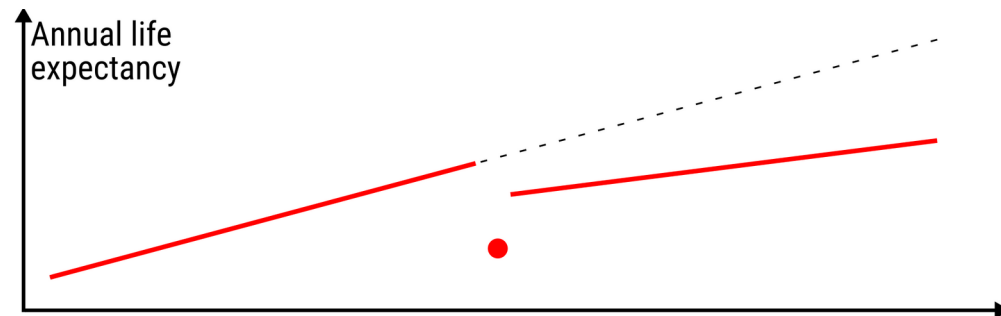
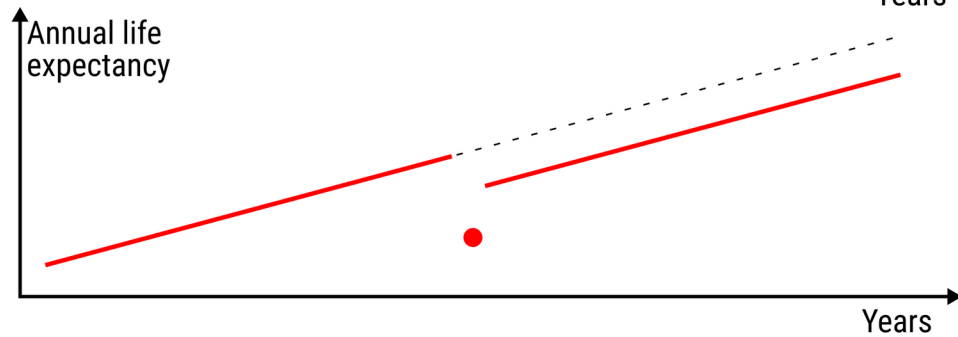
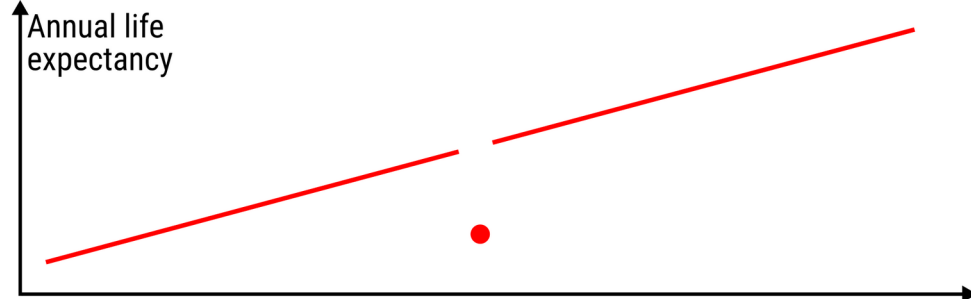
Life expectancy deficits



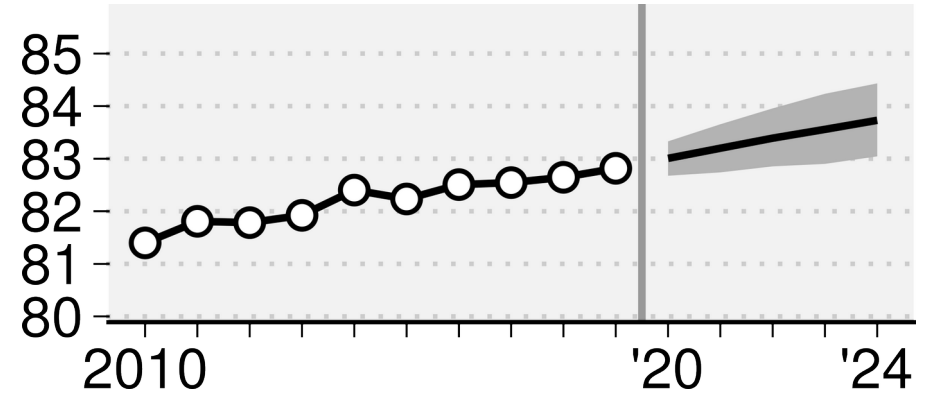
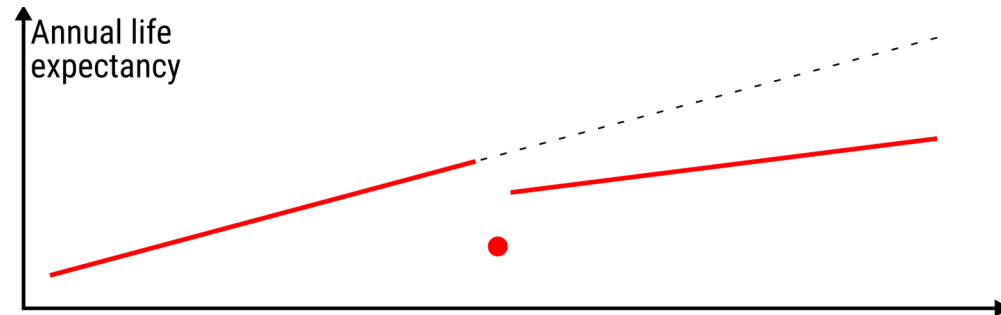
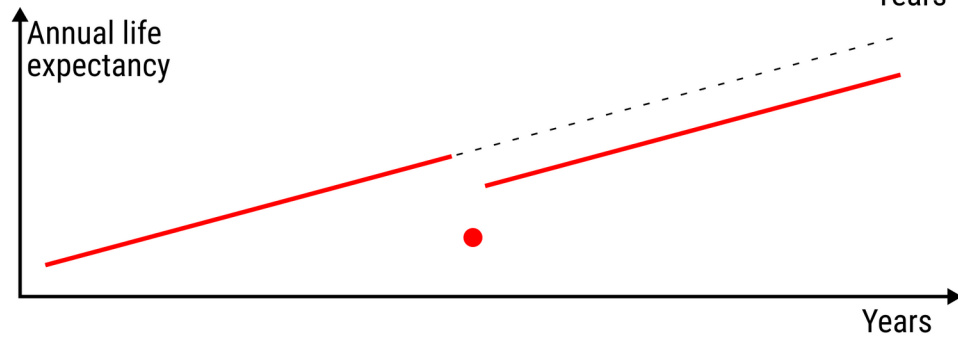
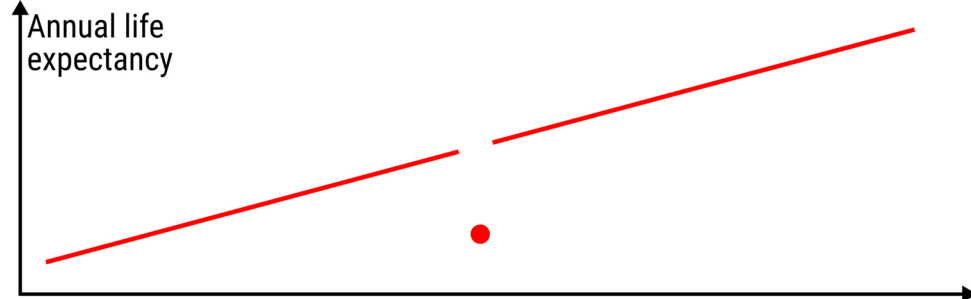
Life expectancy deficits



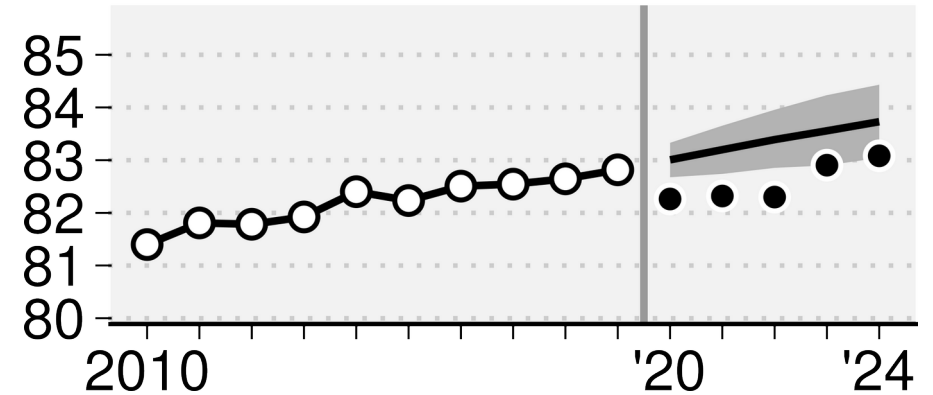
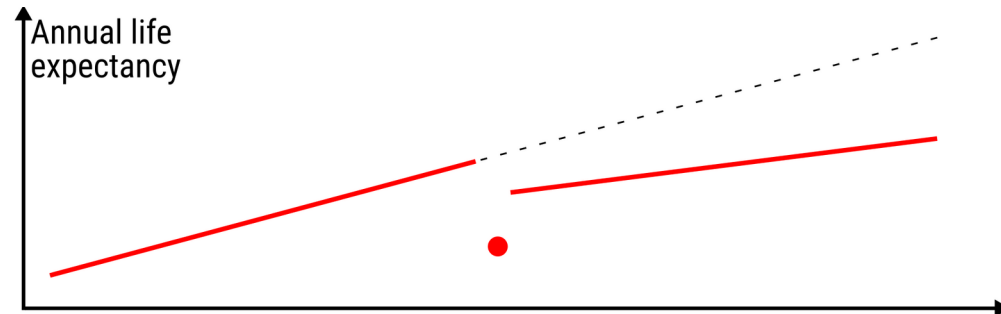
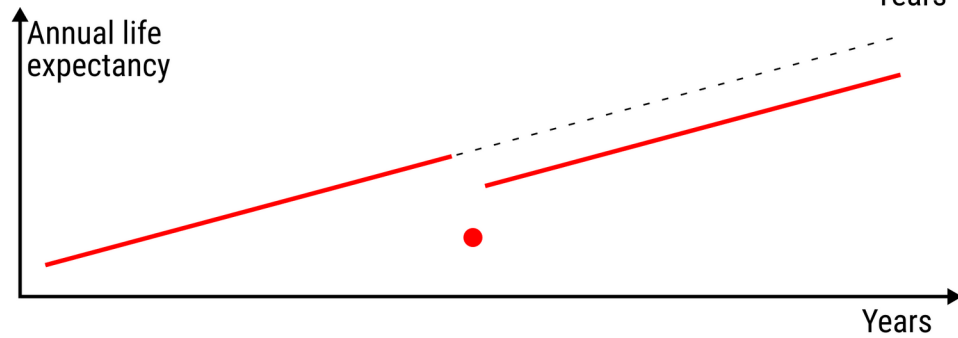
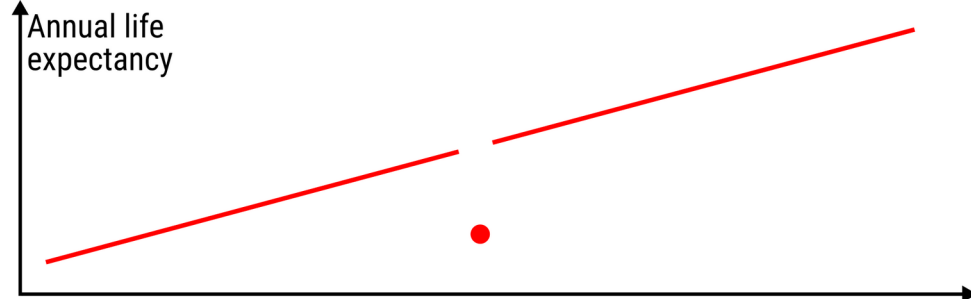
Life expectancy deficits



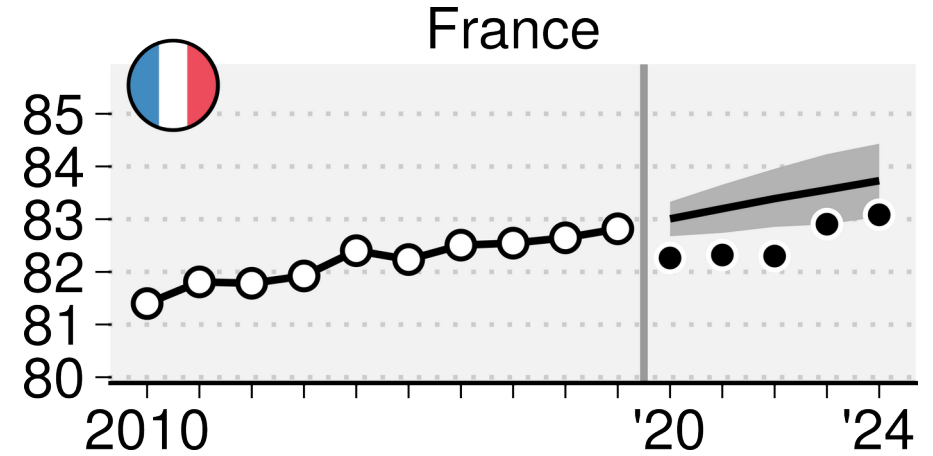
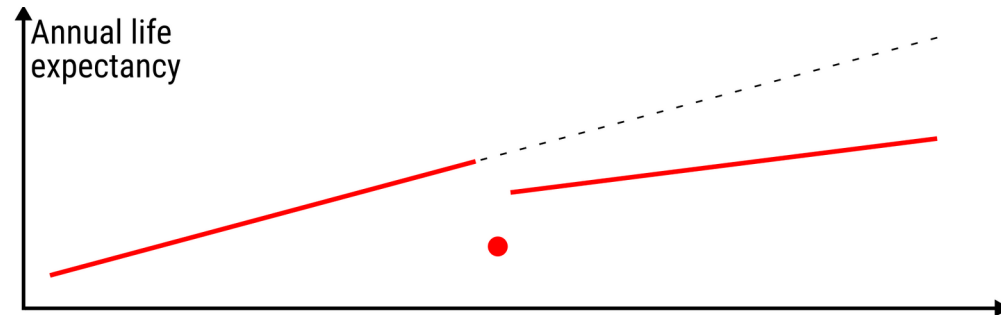
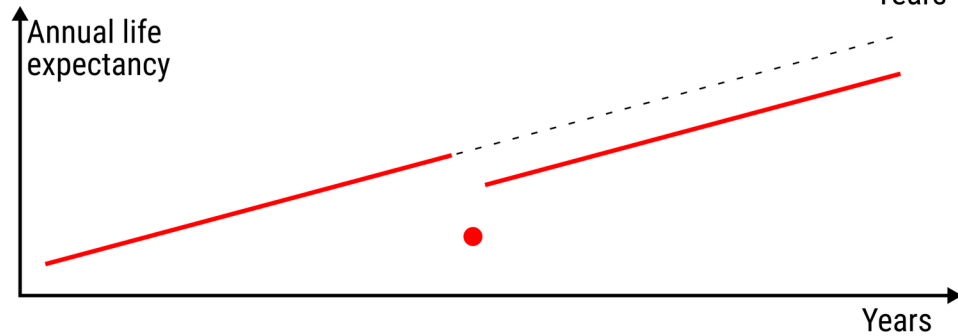
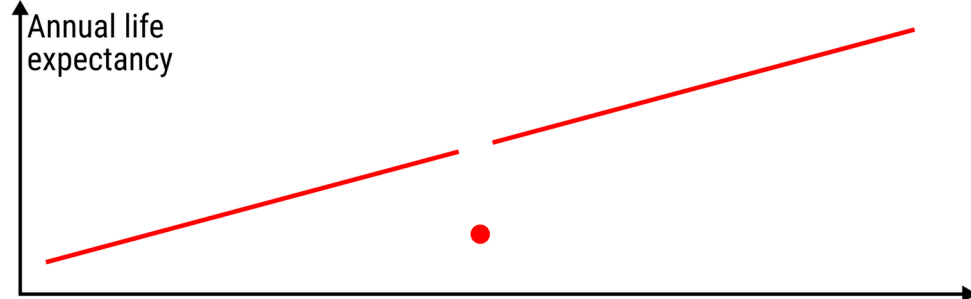
Life expectancy deficits



Life expectancy deficits



Life expectancy deficits

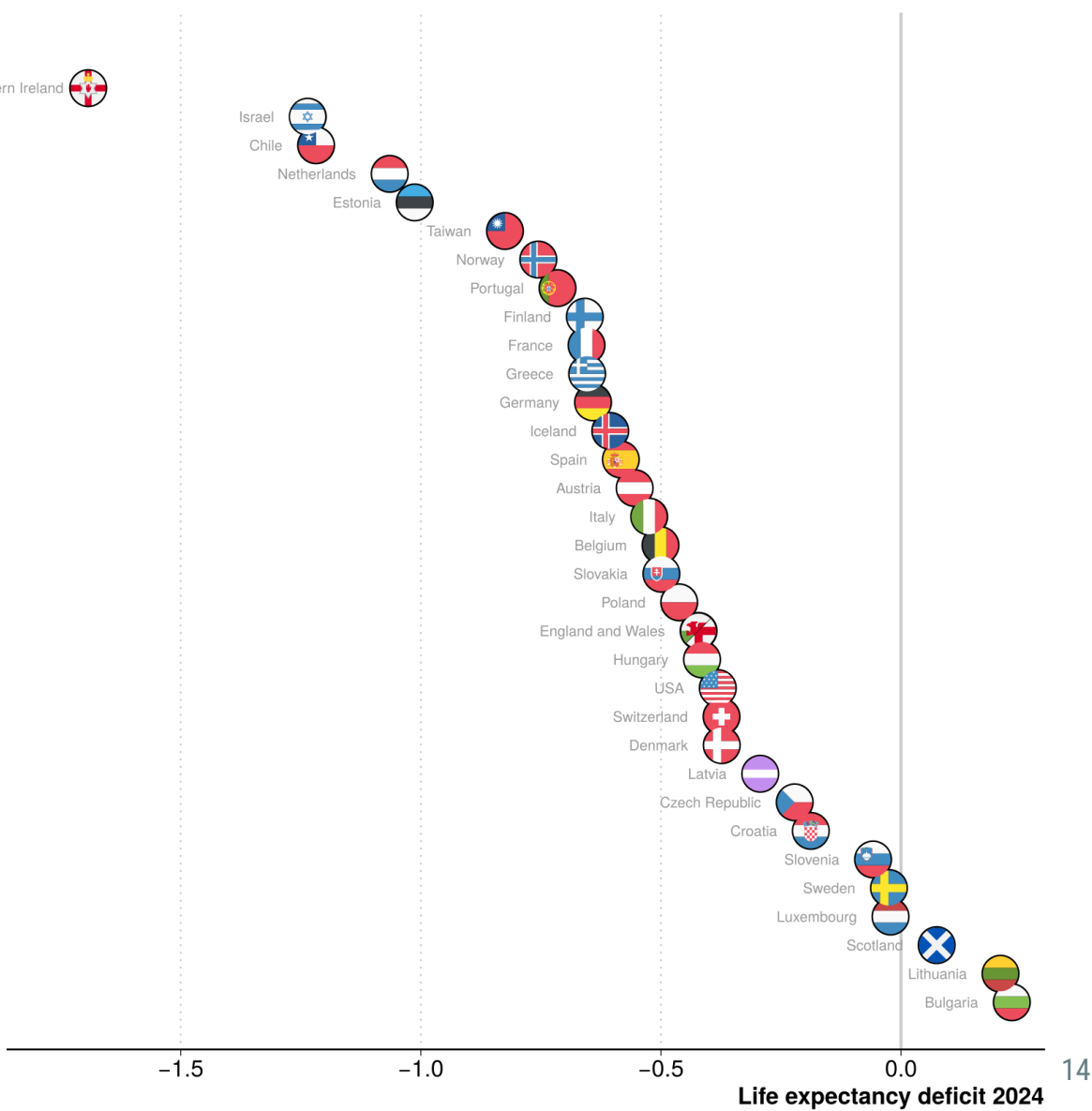


State of affairs in 2024

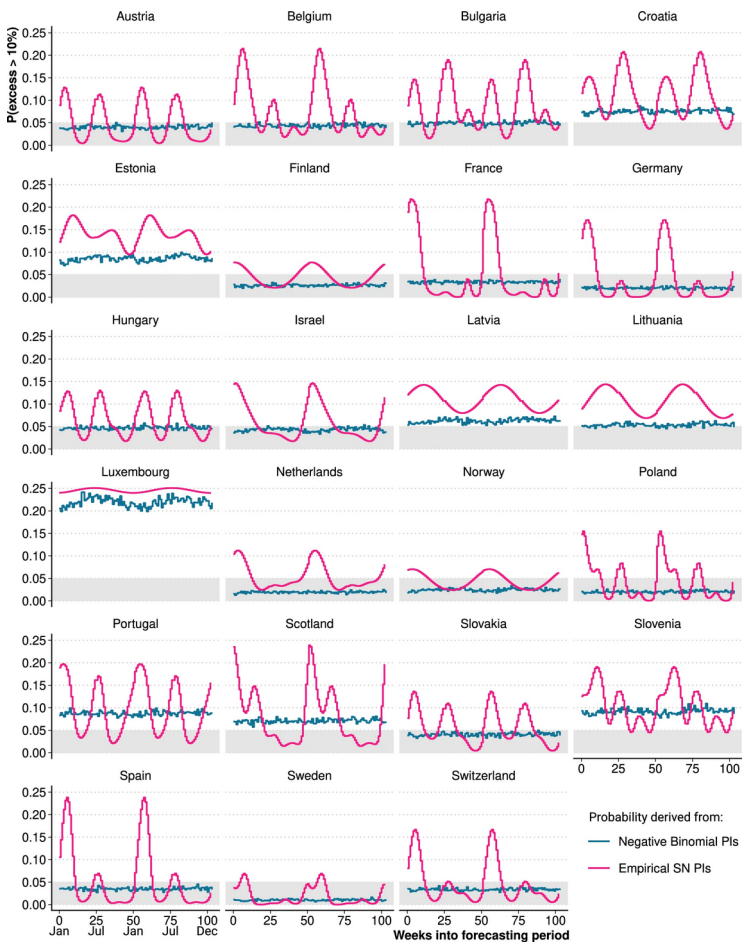
State of affairs in 2024

e0 deficit in 30/33 countries

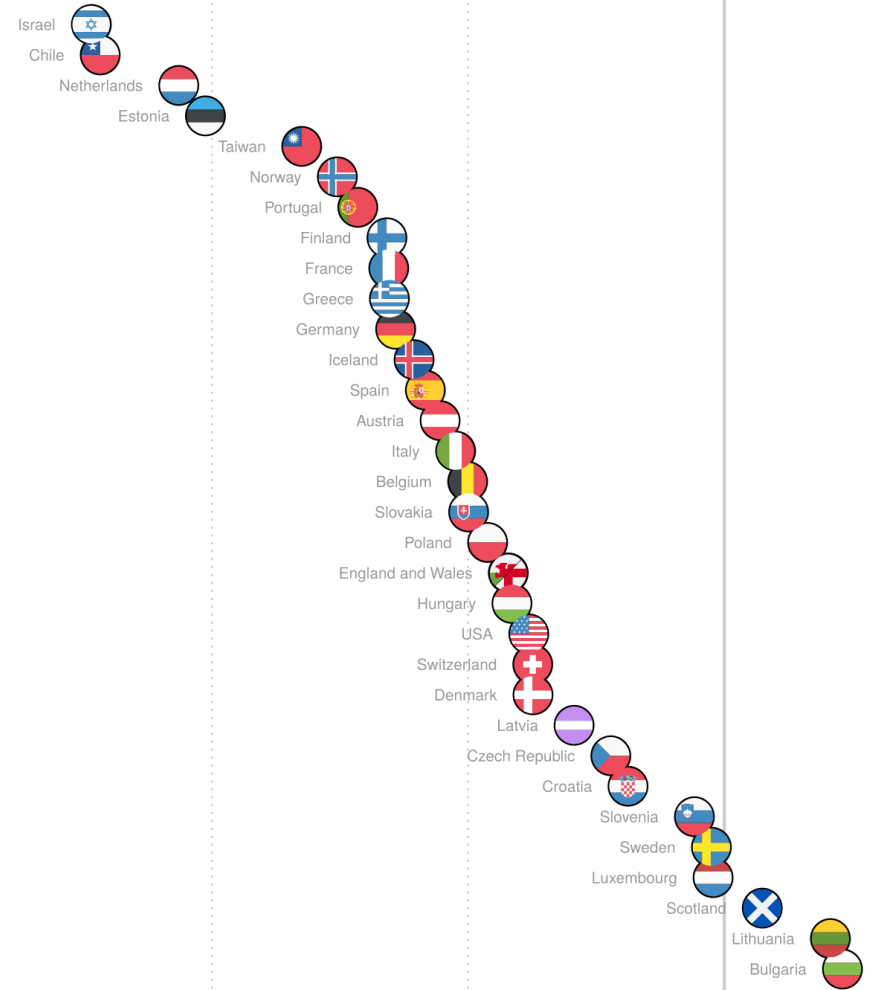
Northern Ireland



State of affairs in 2024



Northern Ireland



Duerst & Schöley (2024). Empirical prediction
Intervals applied to short term mortality forecasts
and excess deaths. [10.1186/s12963-024-00355-9](https://doi.org/10.1186/s12963-024-00355-9)

-1.5

-1.0

-0.5

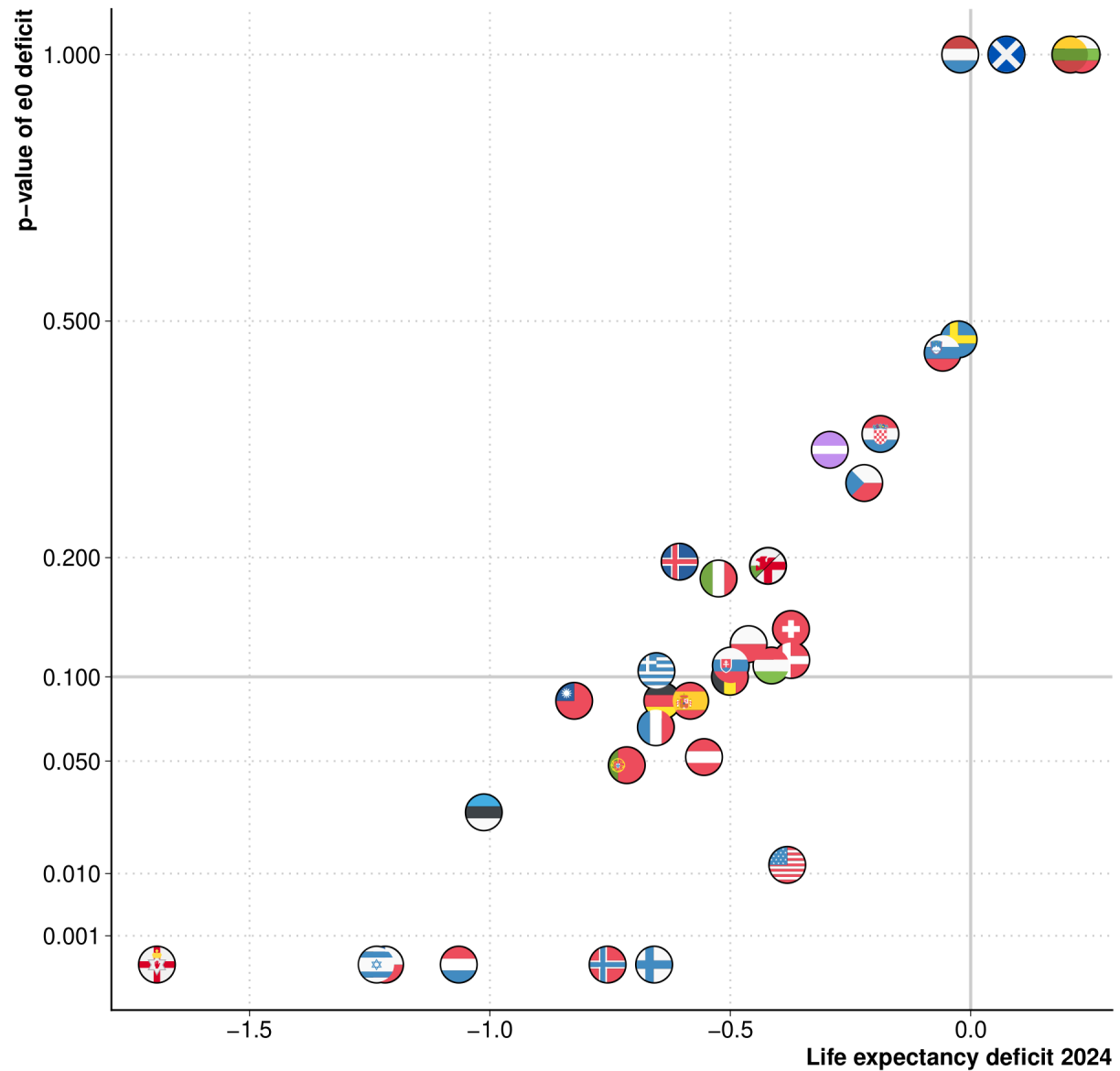
0.0

15

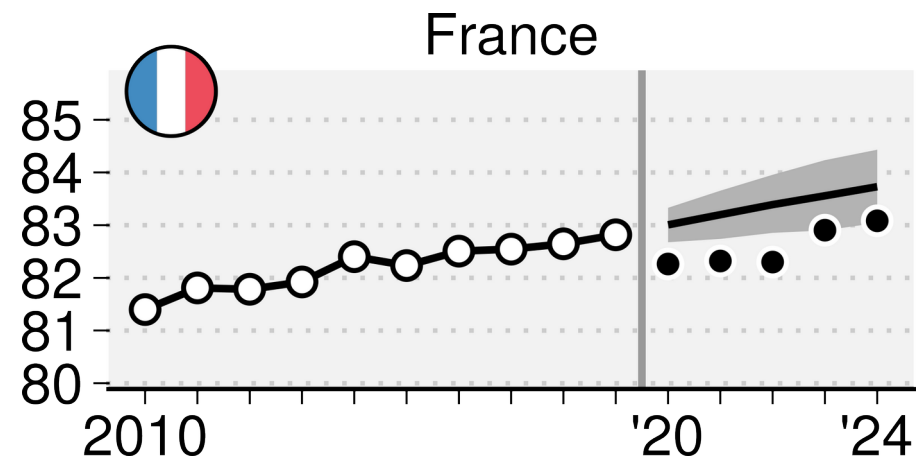
Life expectancy deficit 2024

State of affairs in 2024

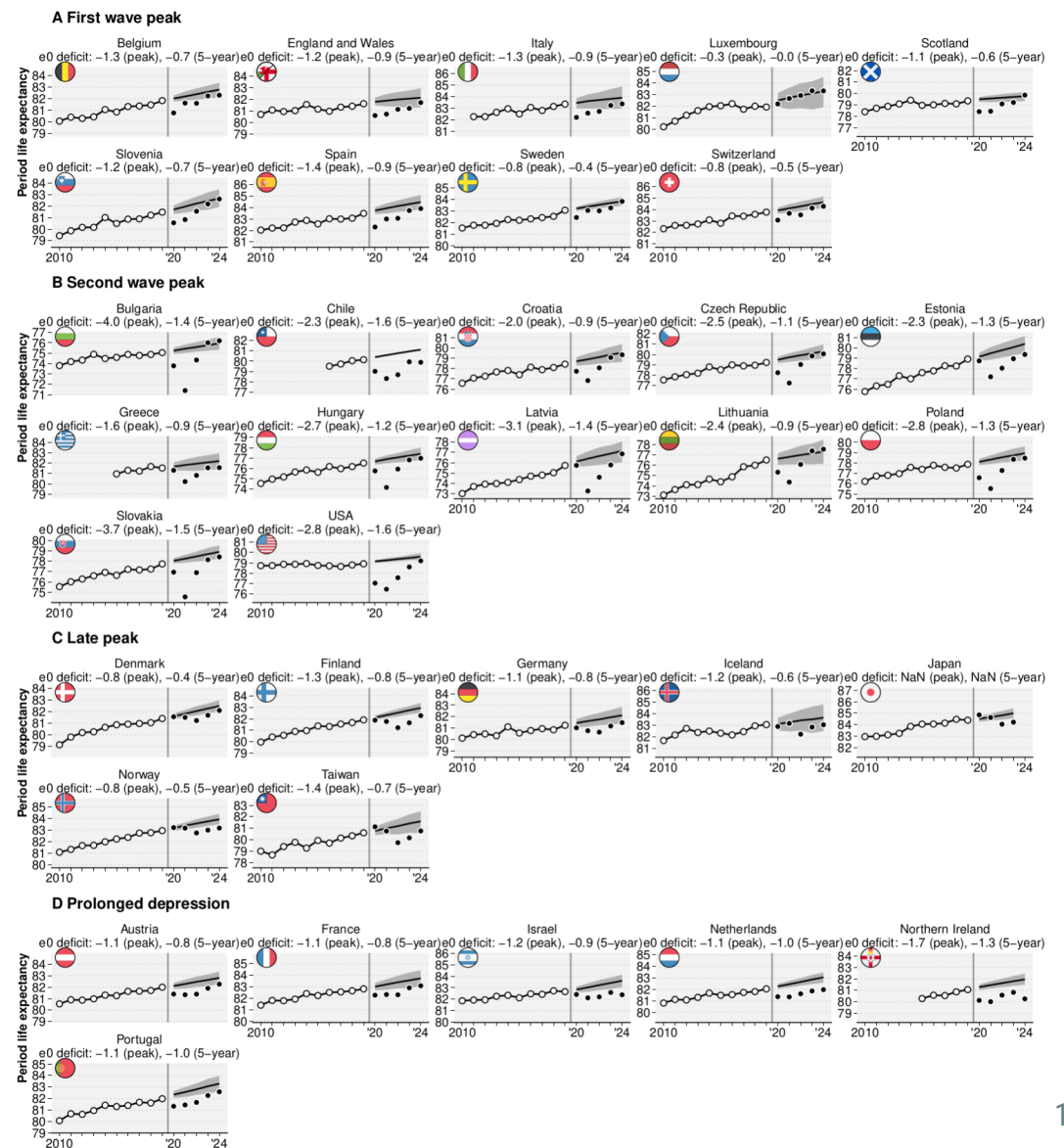
Significant **e0 deficit** in
15/33 countries ($p \leq 0.1$)



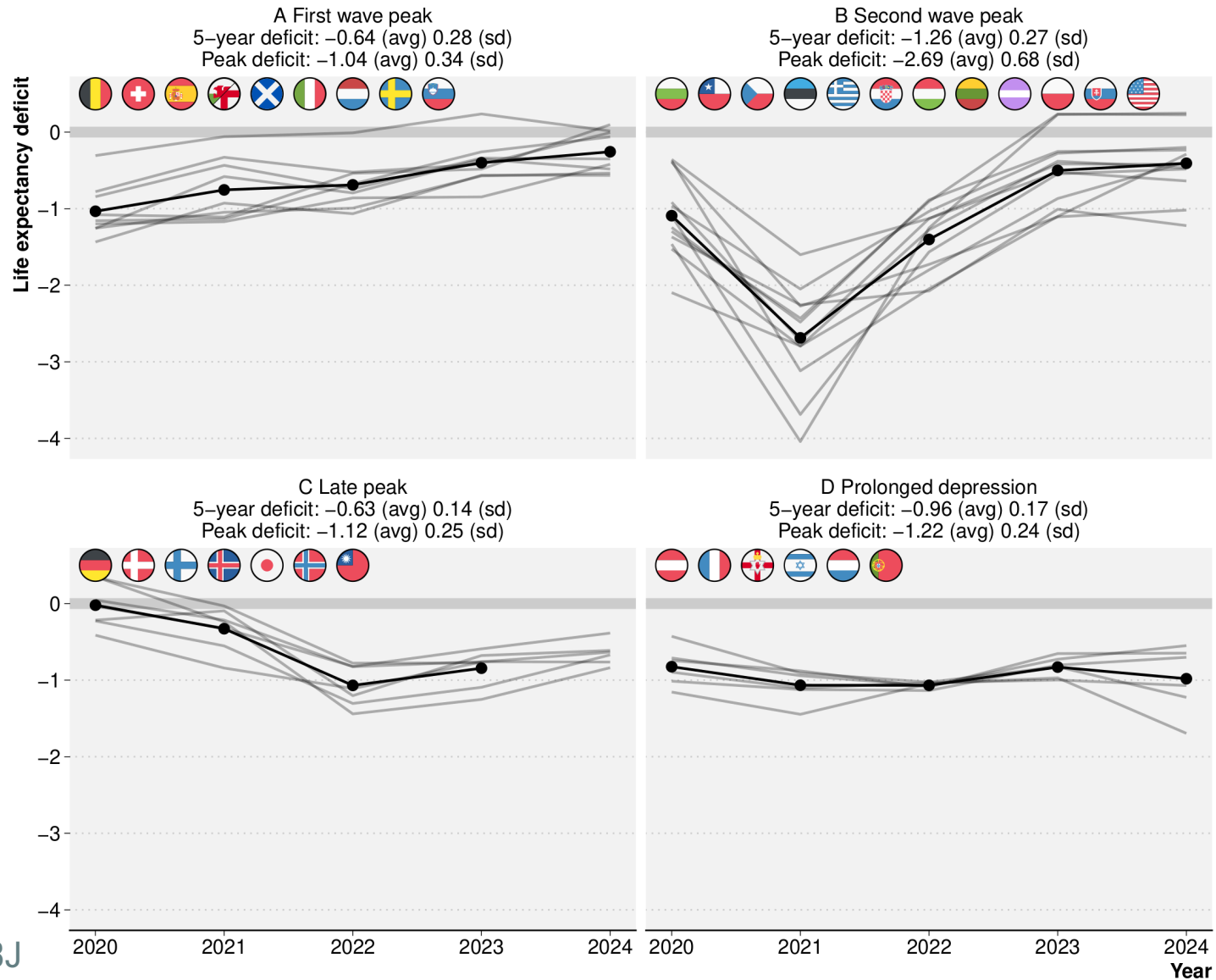
Four patterns



Four patterns

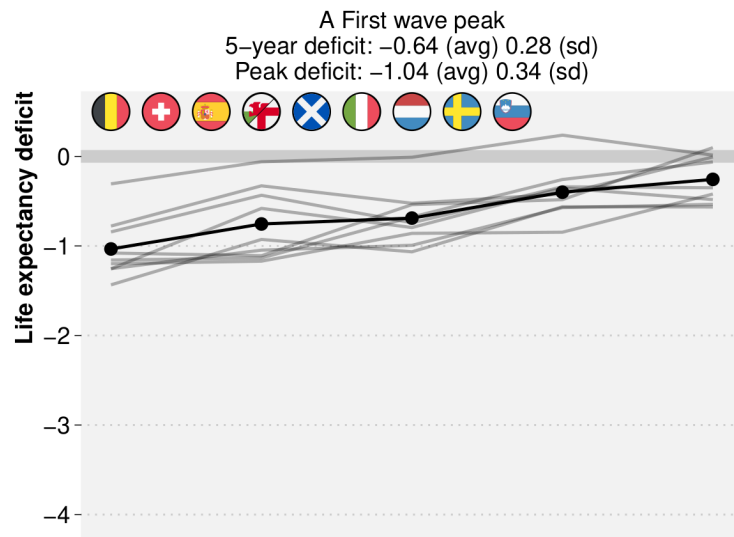
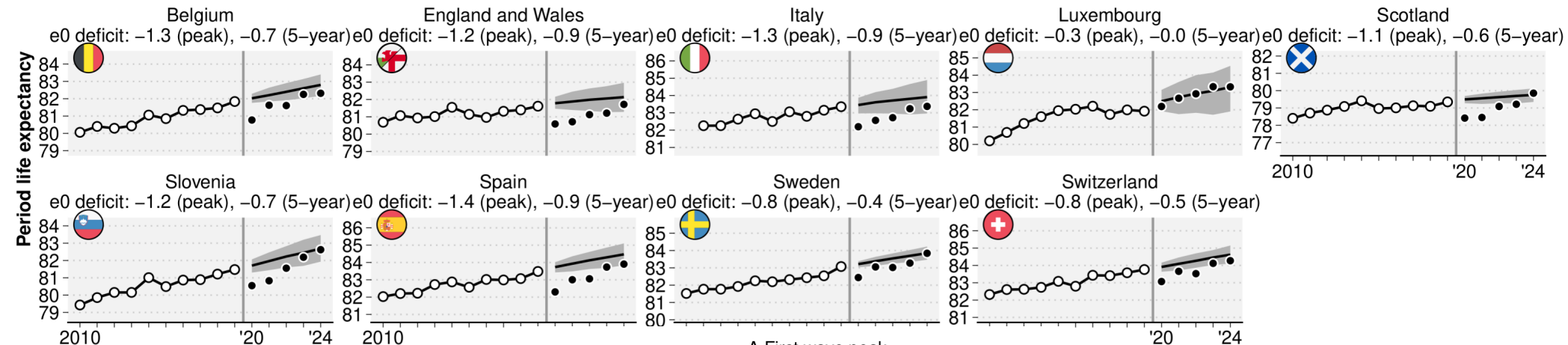


Four patterns



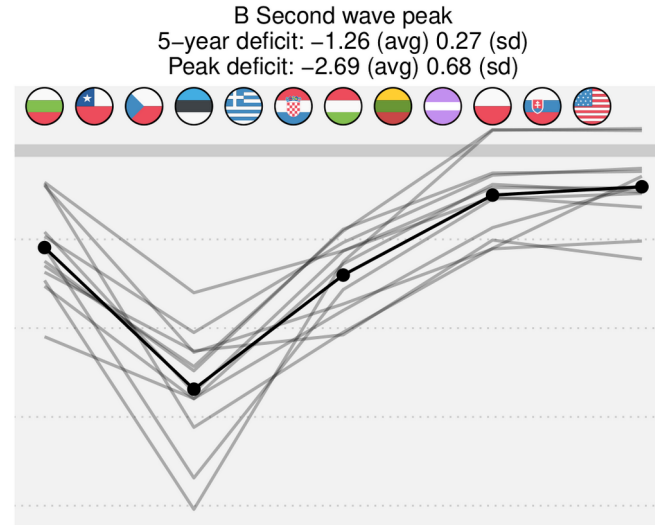
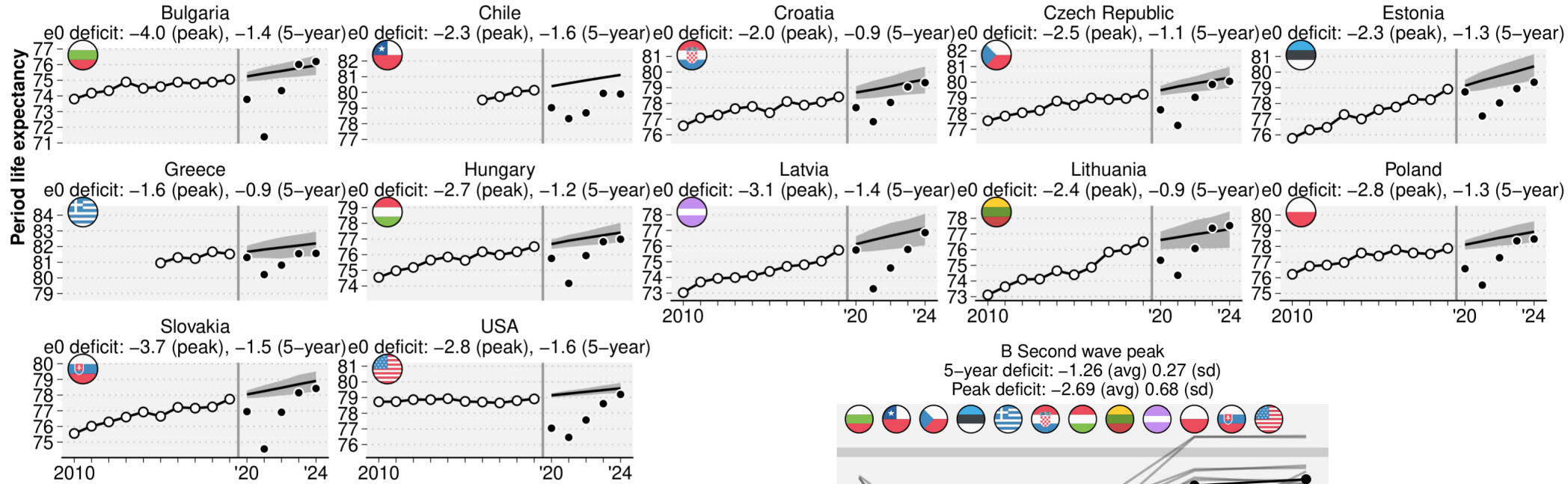
Four patterns

A First wave peak



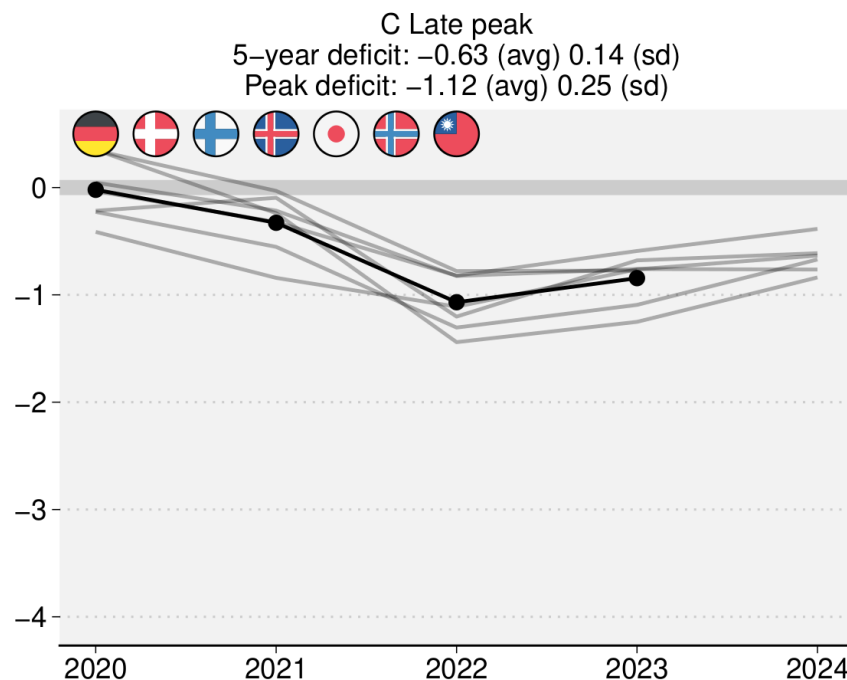
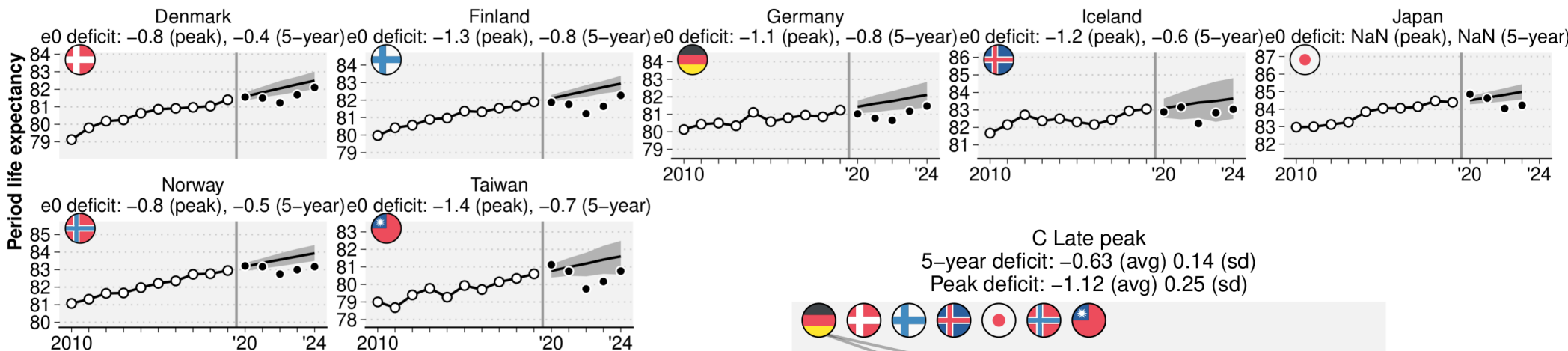
Four patterns

B Second wave peak



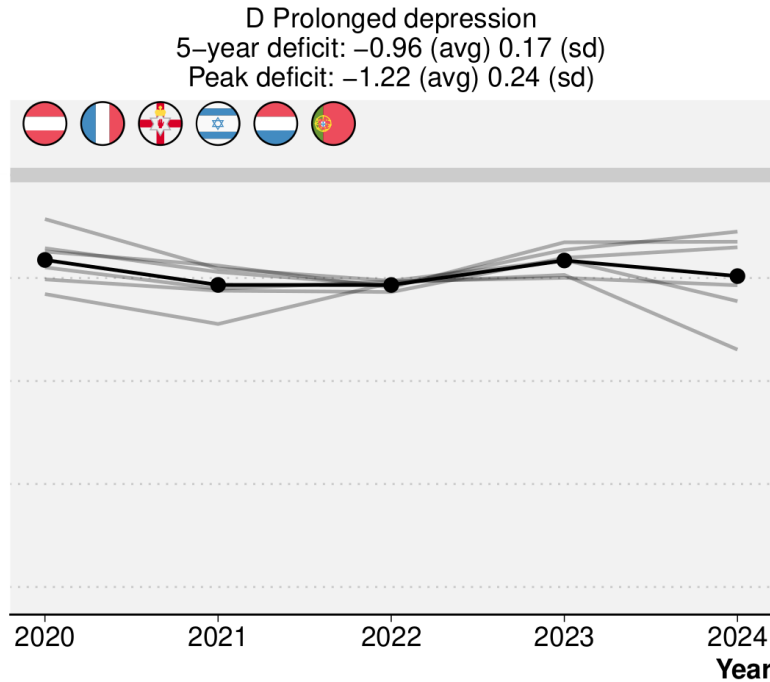
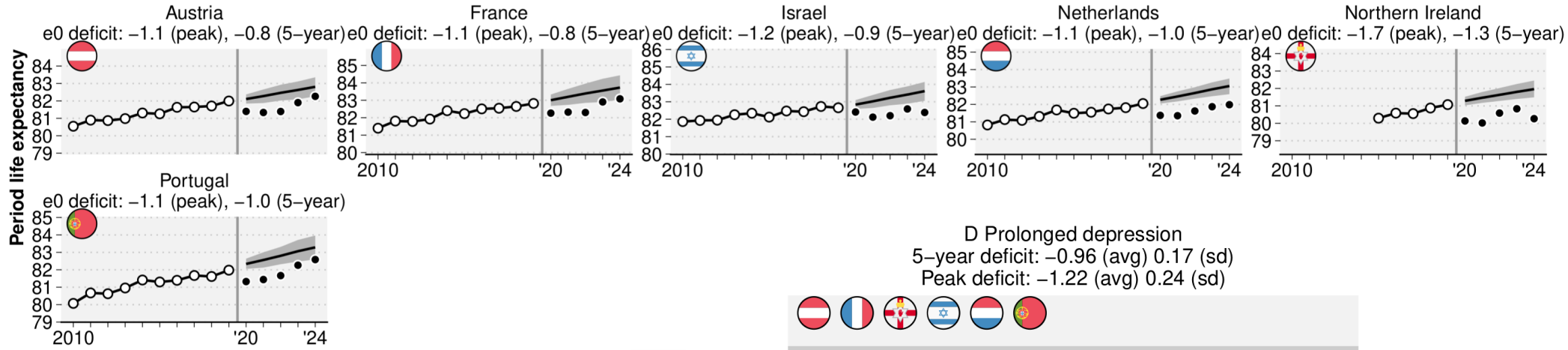
Four patterns

C Late peak

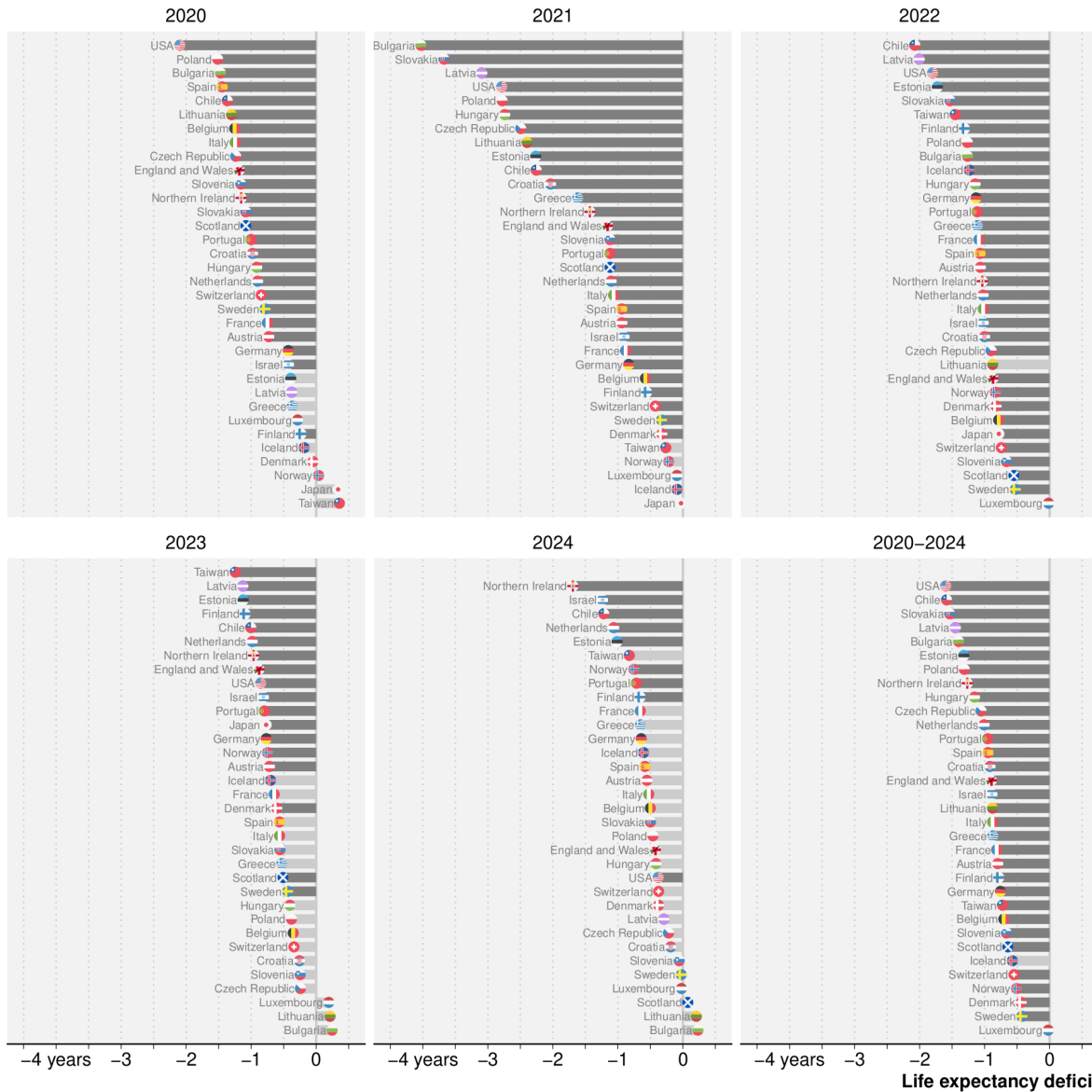


Four patterns

D Prolonged depression

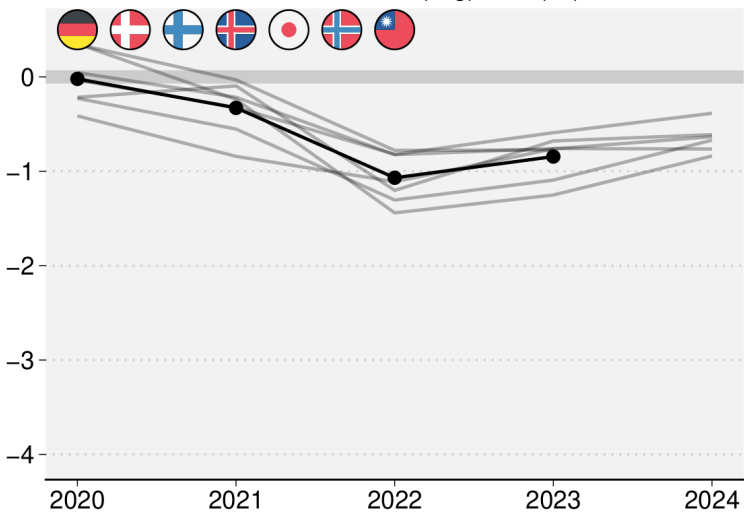


A preparation paradox

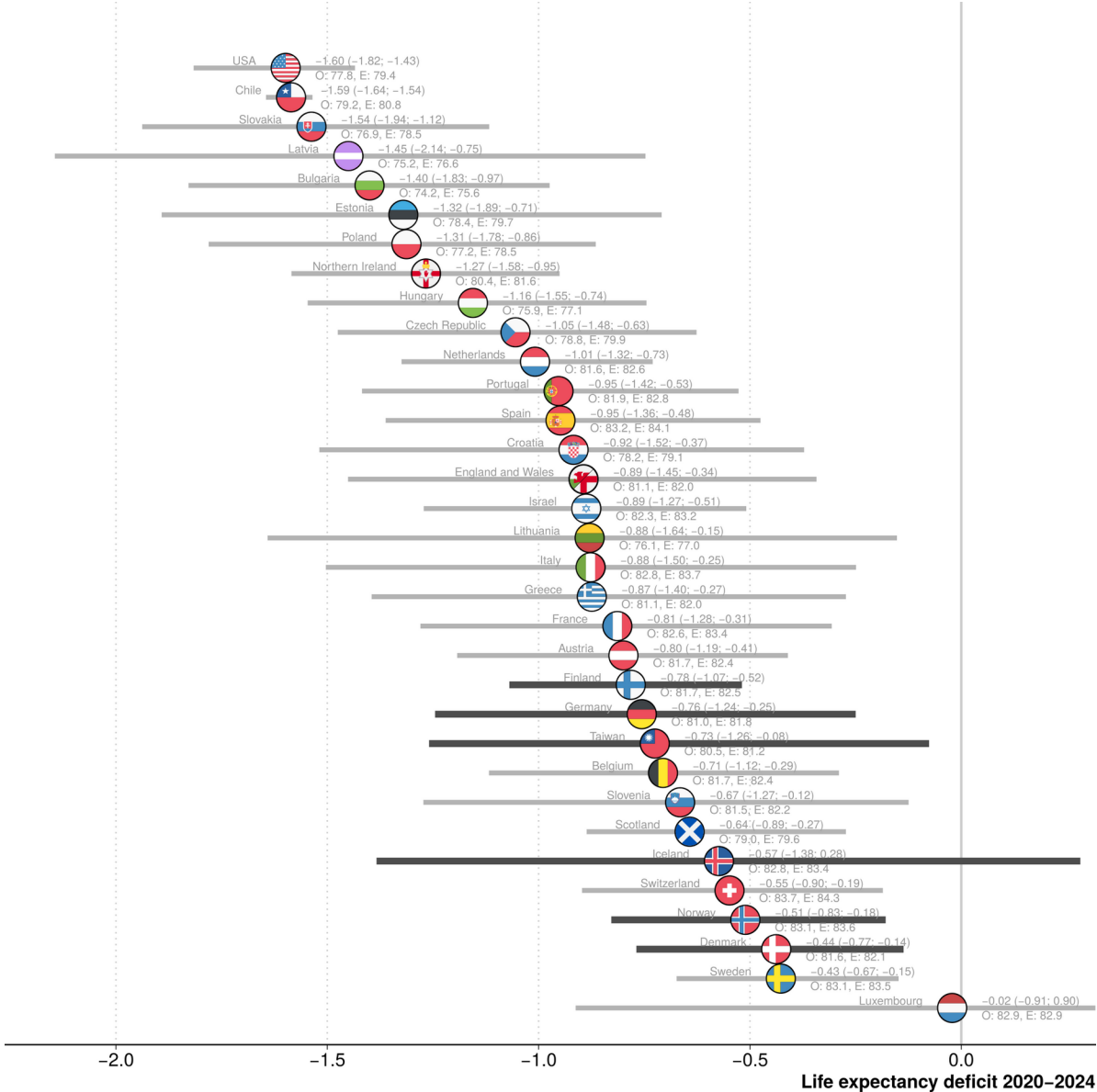


The bottom line

C Late peak
5-year deficit: -0.63 (avg) 0.14 (sd)
Peak deficit: -1.12 (avg) 0.25 (sd)

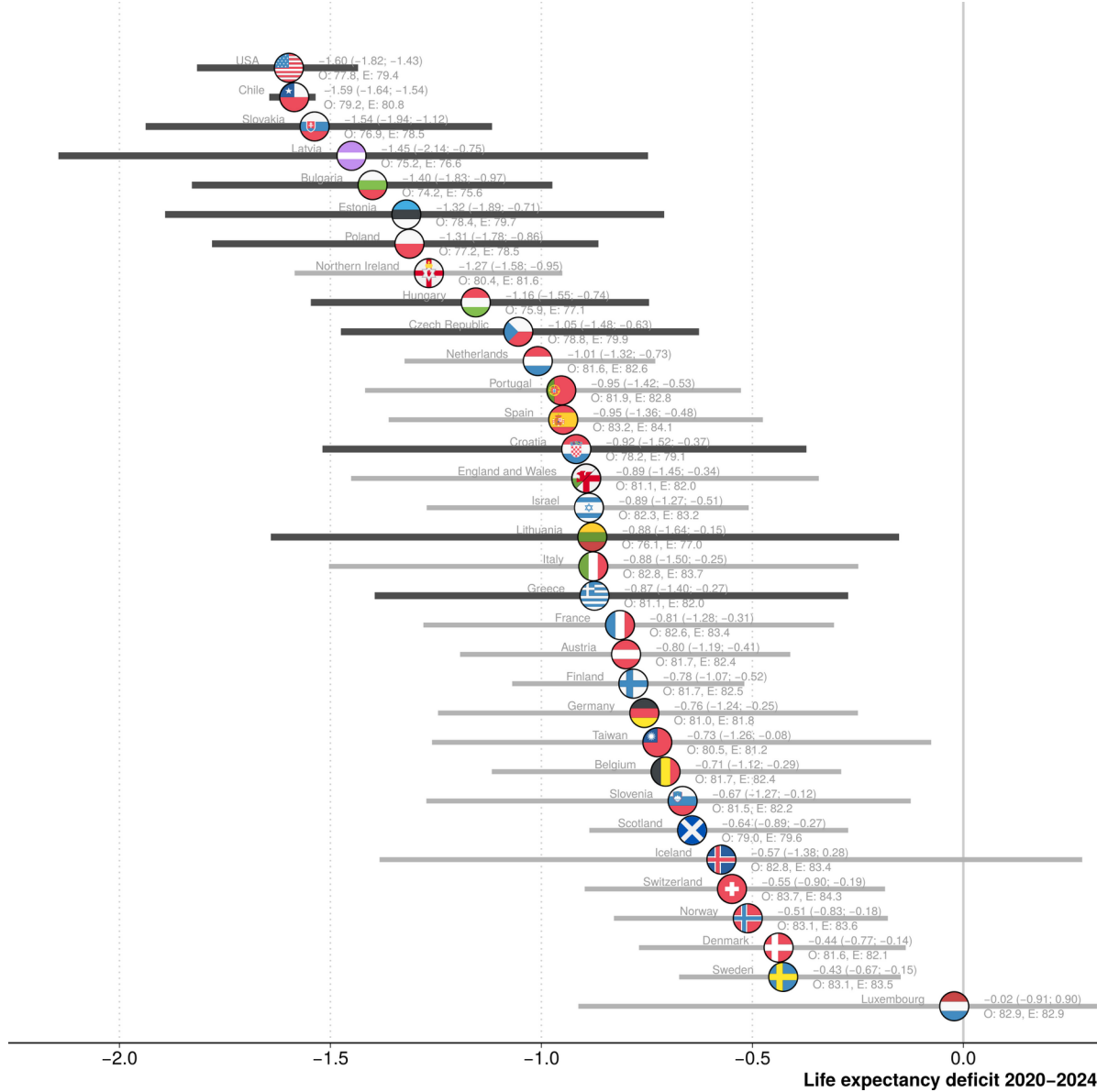
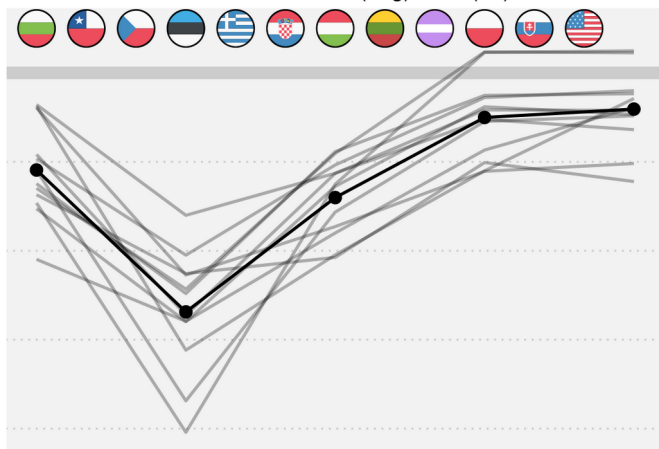


Data: HMD/STMF/WPP/CDC/SBJ

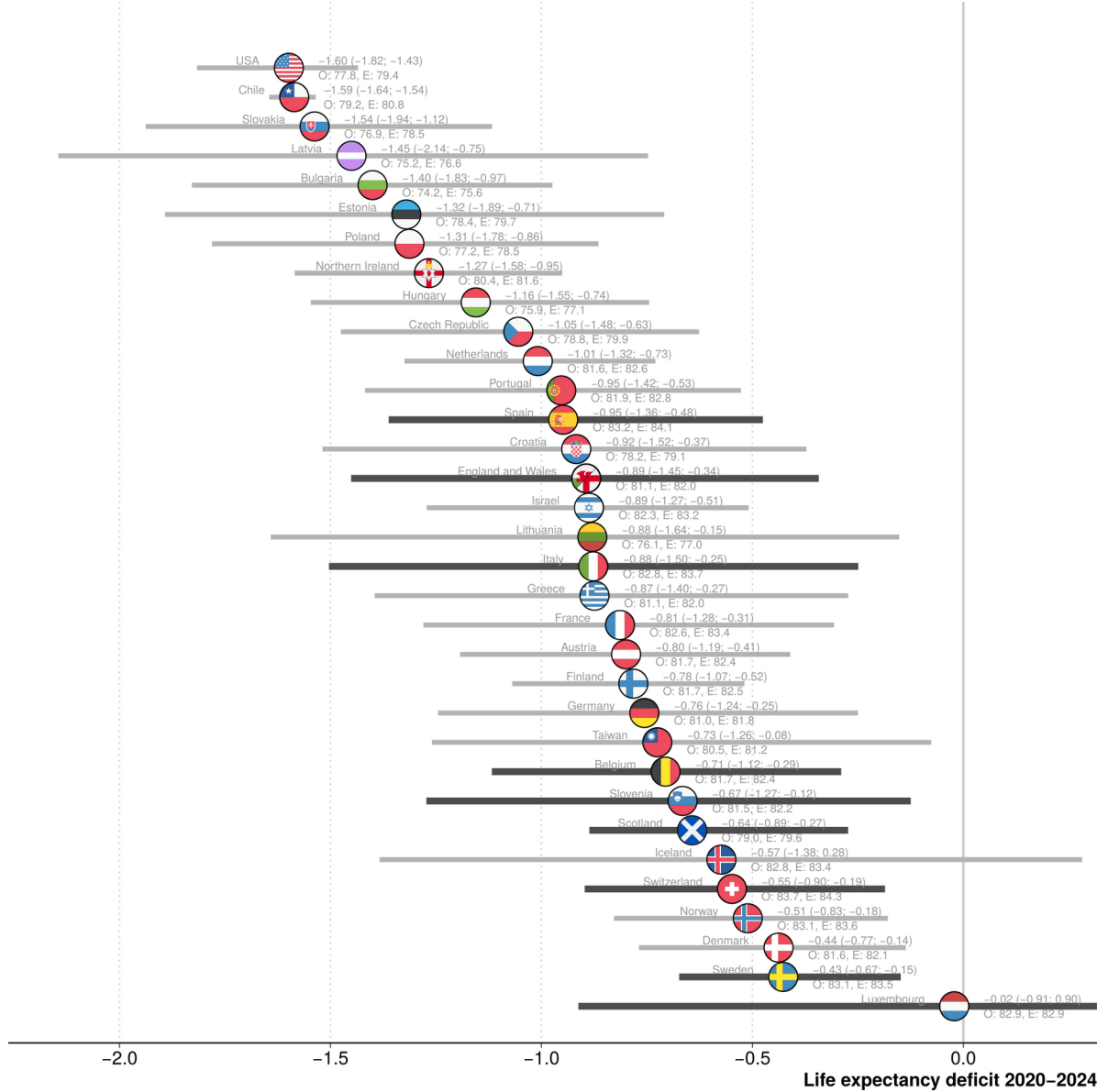
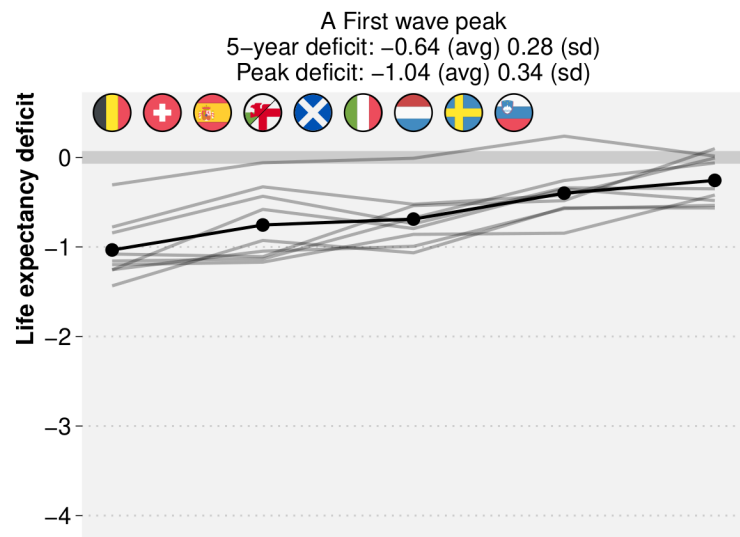


The bottom line

B Second wave peak
 5-year deficit: -1.26 (avg) 0.27 (sd)
 Peak deficit: -2.69 (avg) 0.68 (sd)

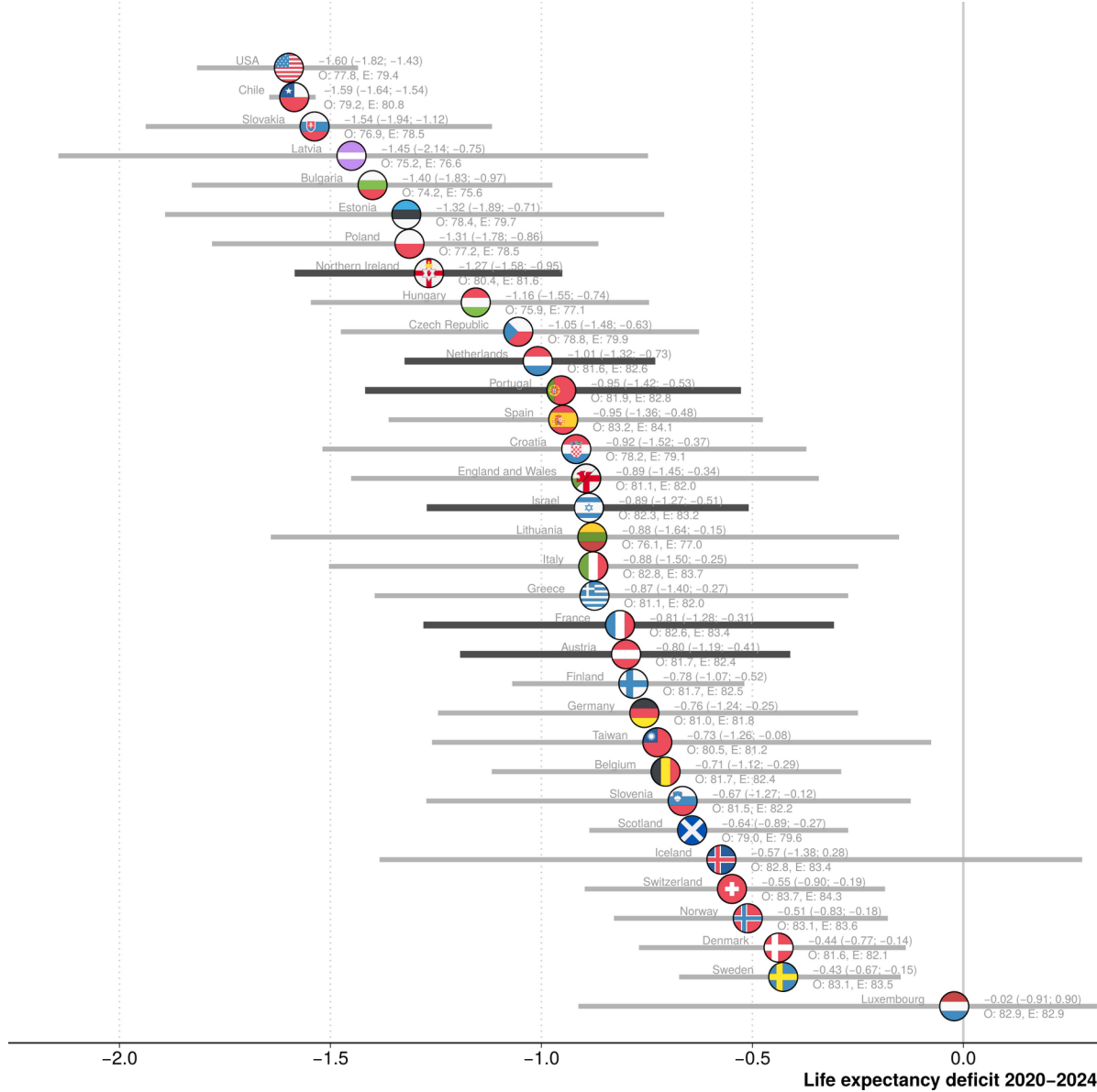
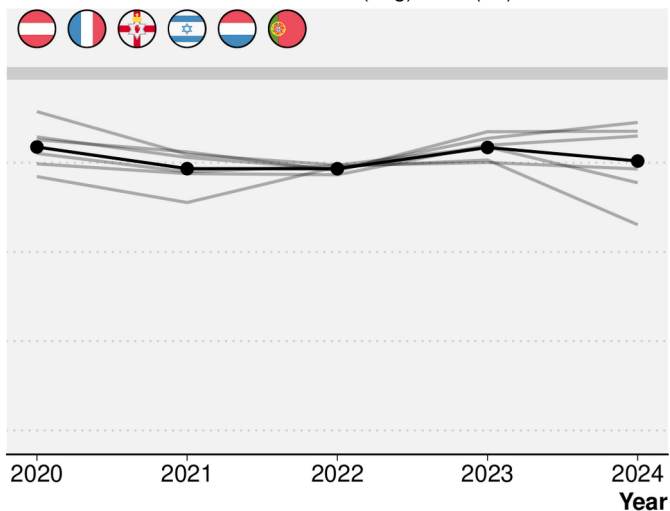


The bottom line

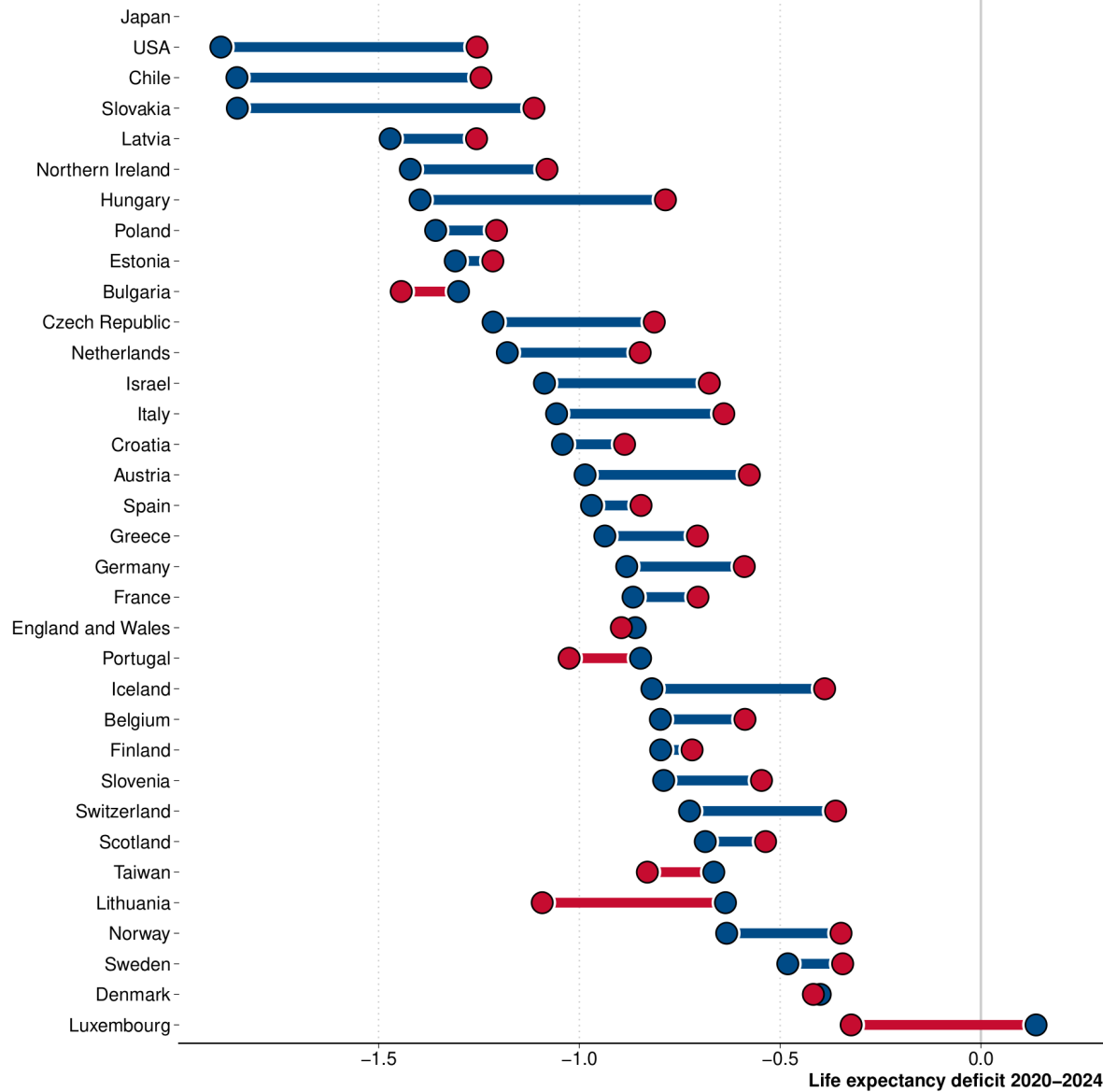


The bottom line

D Prolonged depression
5-year deficit: -0.96 (avg) 0.17 (sd)
Peak deficit: -1.22 (avg) 0.24 (sd)

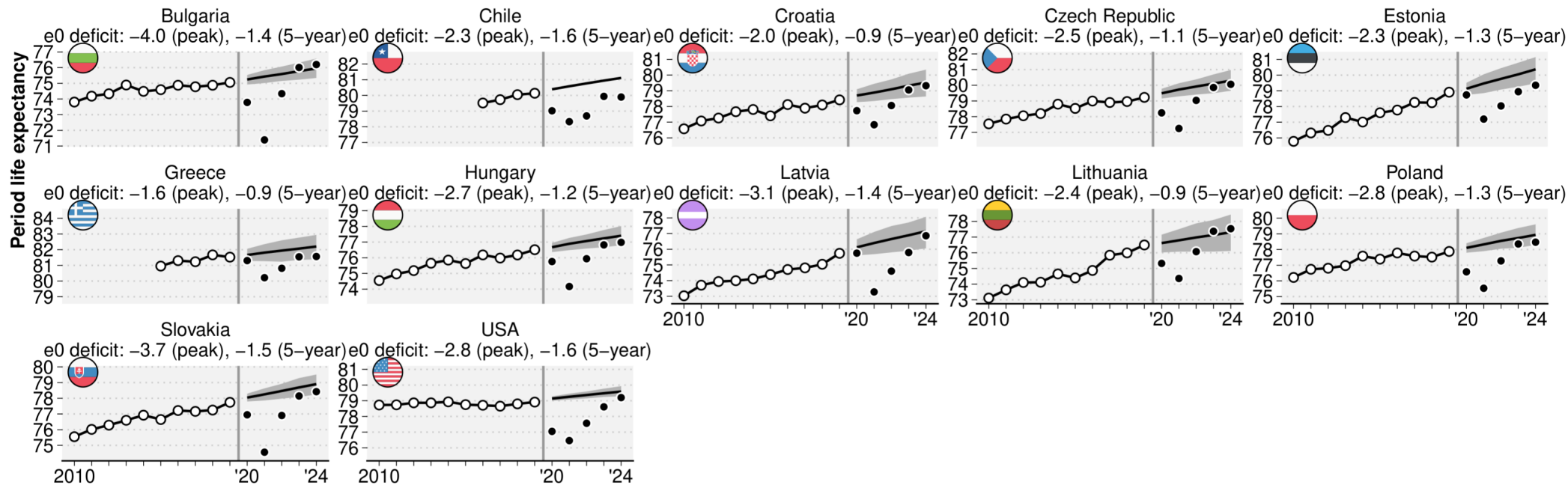


The bottom line

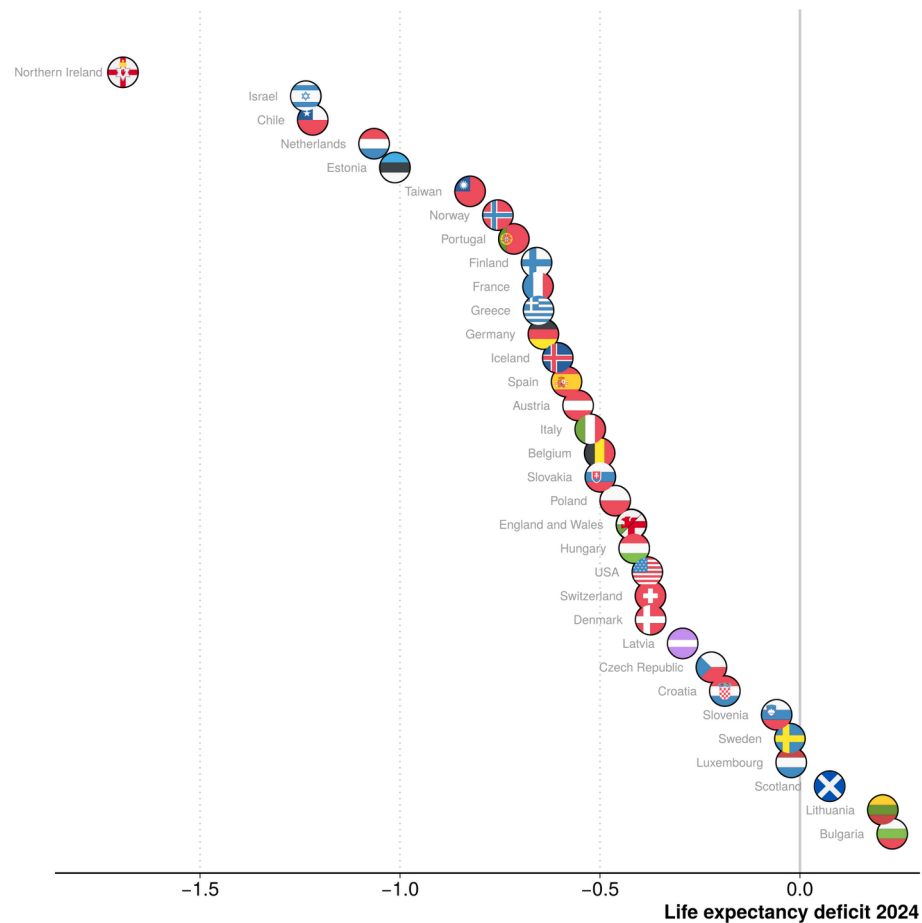


By 2025 most countries on e_0 upward trajectory

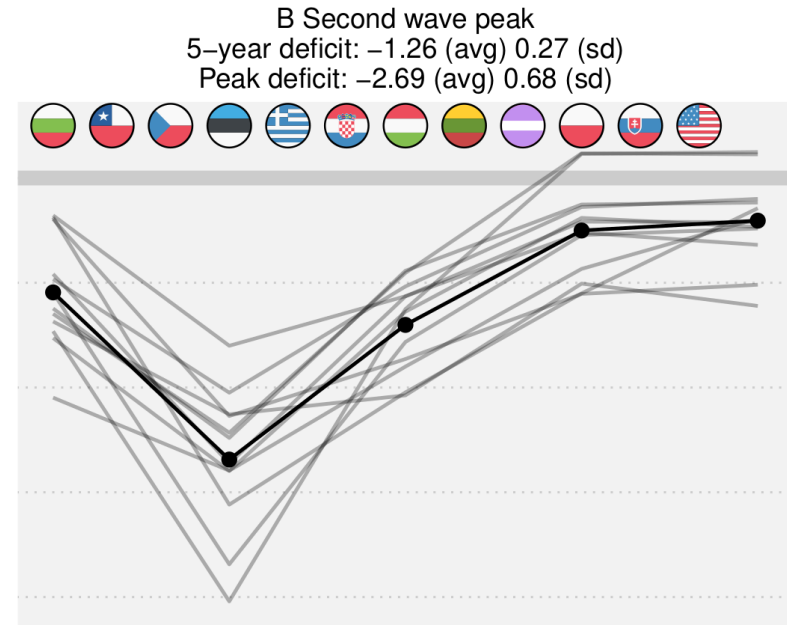
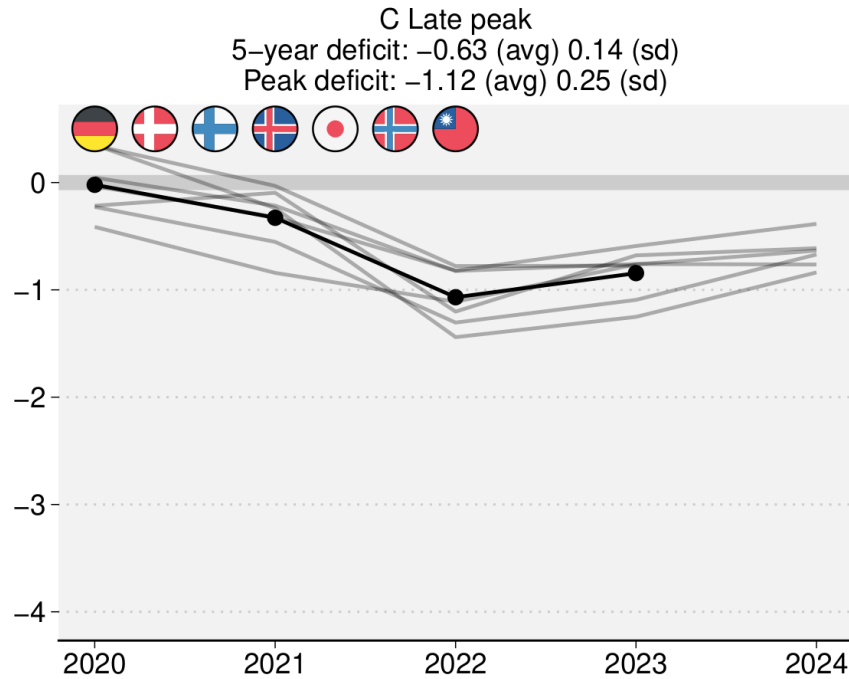
B Second wave peak



The C19 shock induced a lag in e0



“Flattening the curve” lowers but prolongs excess periods



Reproducible analysis

github.com/jschoeley/e0deficit

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