

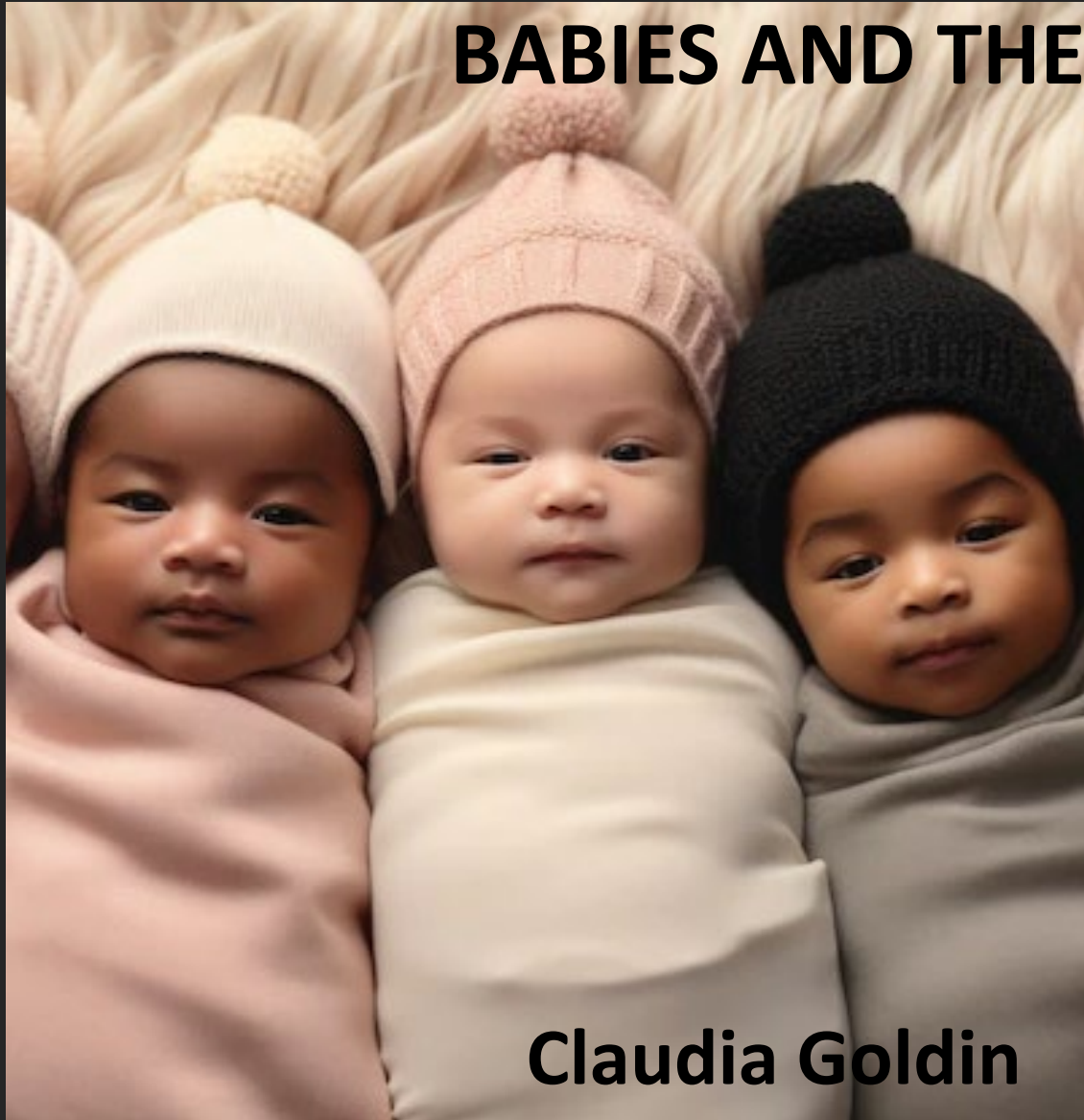
# *Jean Monnet Lecture*

**September 19, 2024**

**Claudia Goldin**

**Harvard University**

# BABIES AND THE MACROECONOMY



**Claudia Goldin**



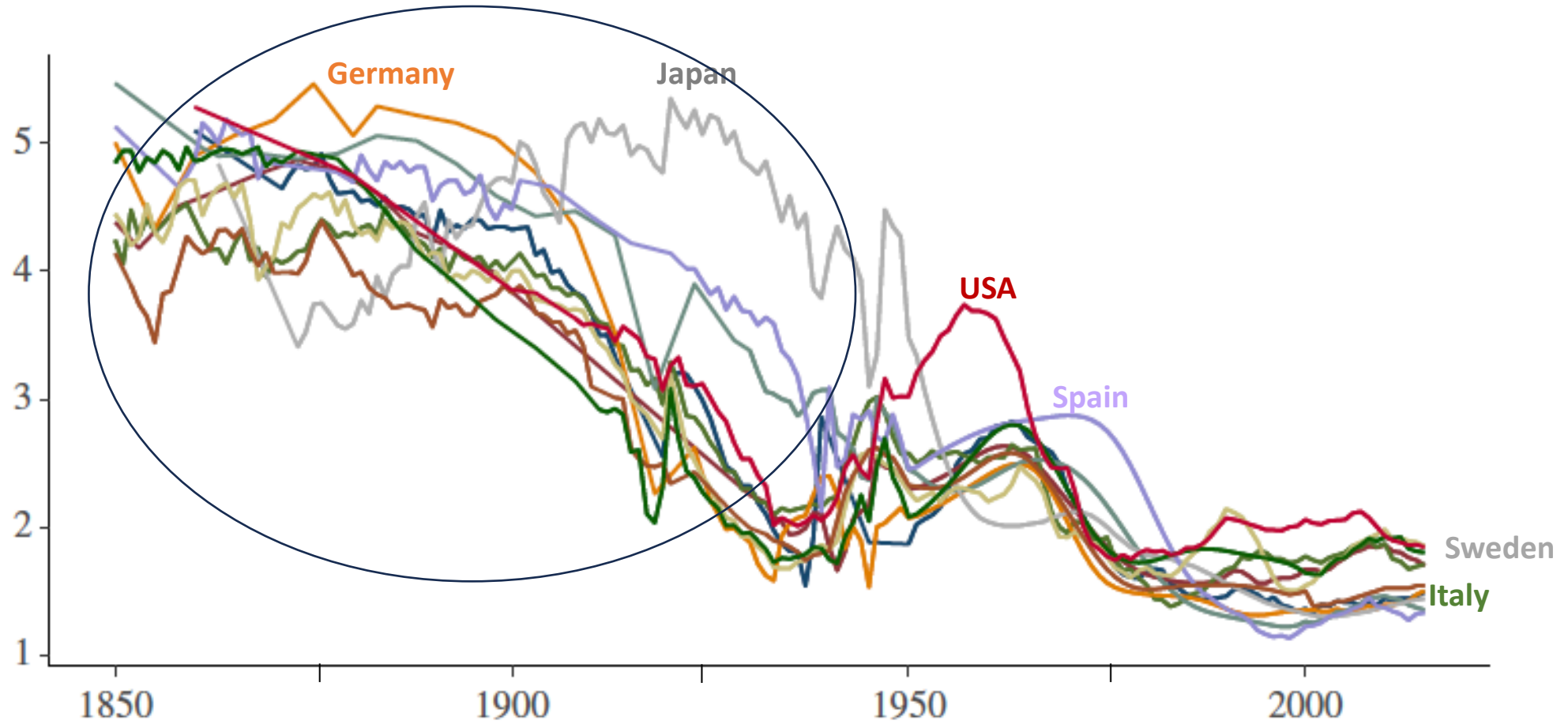
**Harvard University**





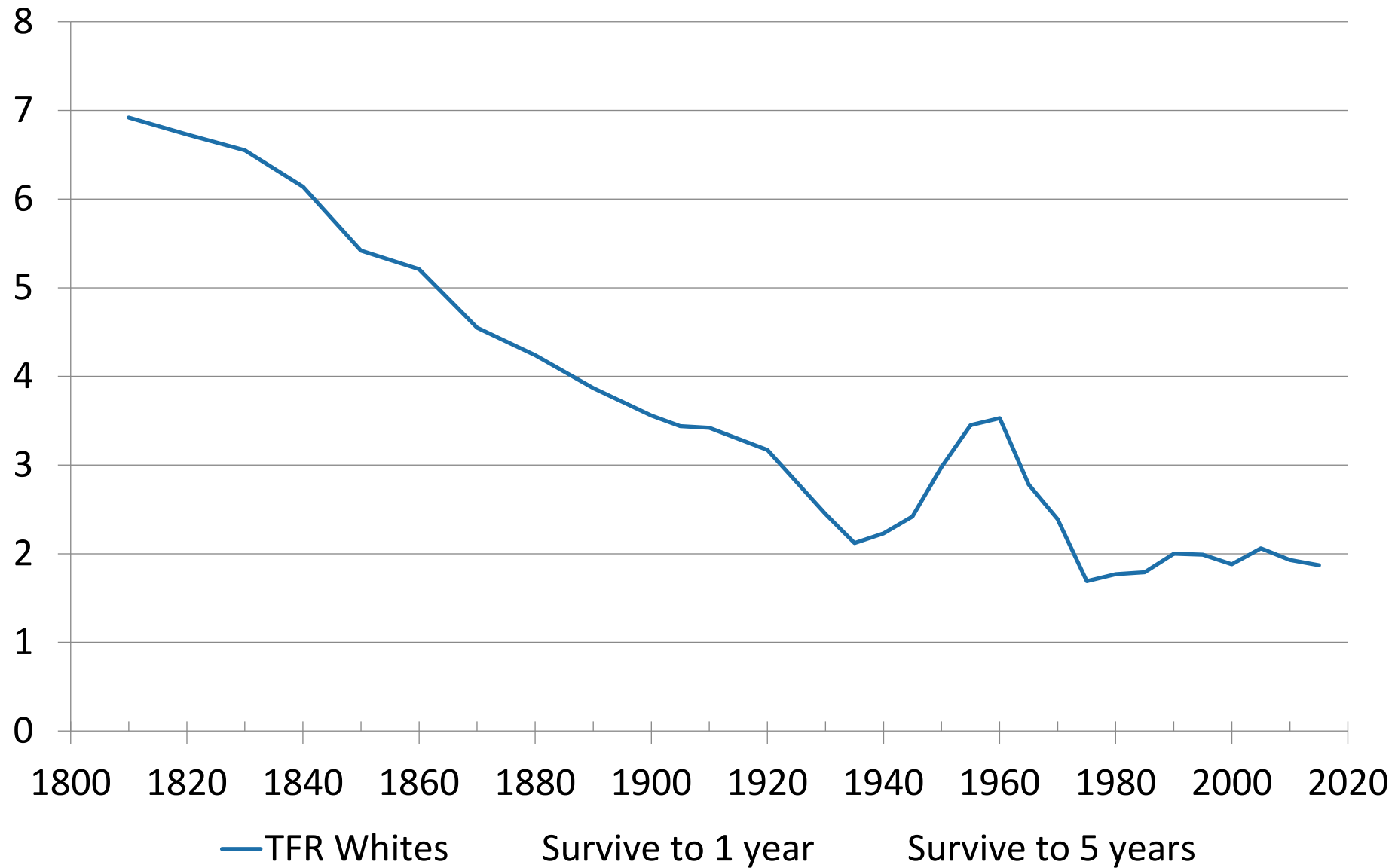
*Population Bomb* (1968) by Paul and Anne H. Ehrlich. Predicted famines, an apocalypse. Proposed the concept of ZPG (Zero Population Growth).

# Total Fertility Rate in 11 Countries from 1850 to the Present

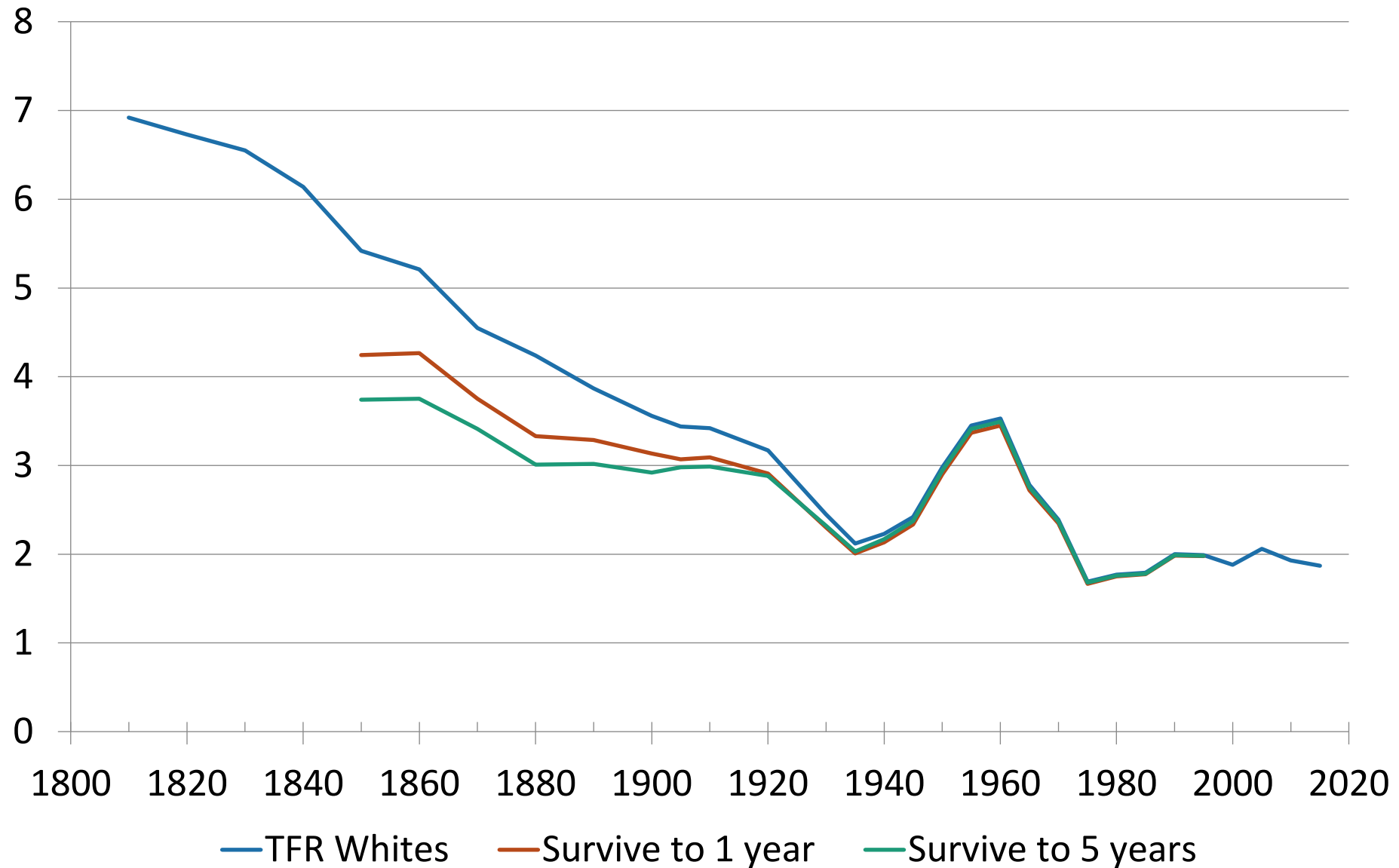


— Austria — Belgium — Denmark — Germany — Italy — Japan  
— Spain — Sweden — Switzerland — UK — USA

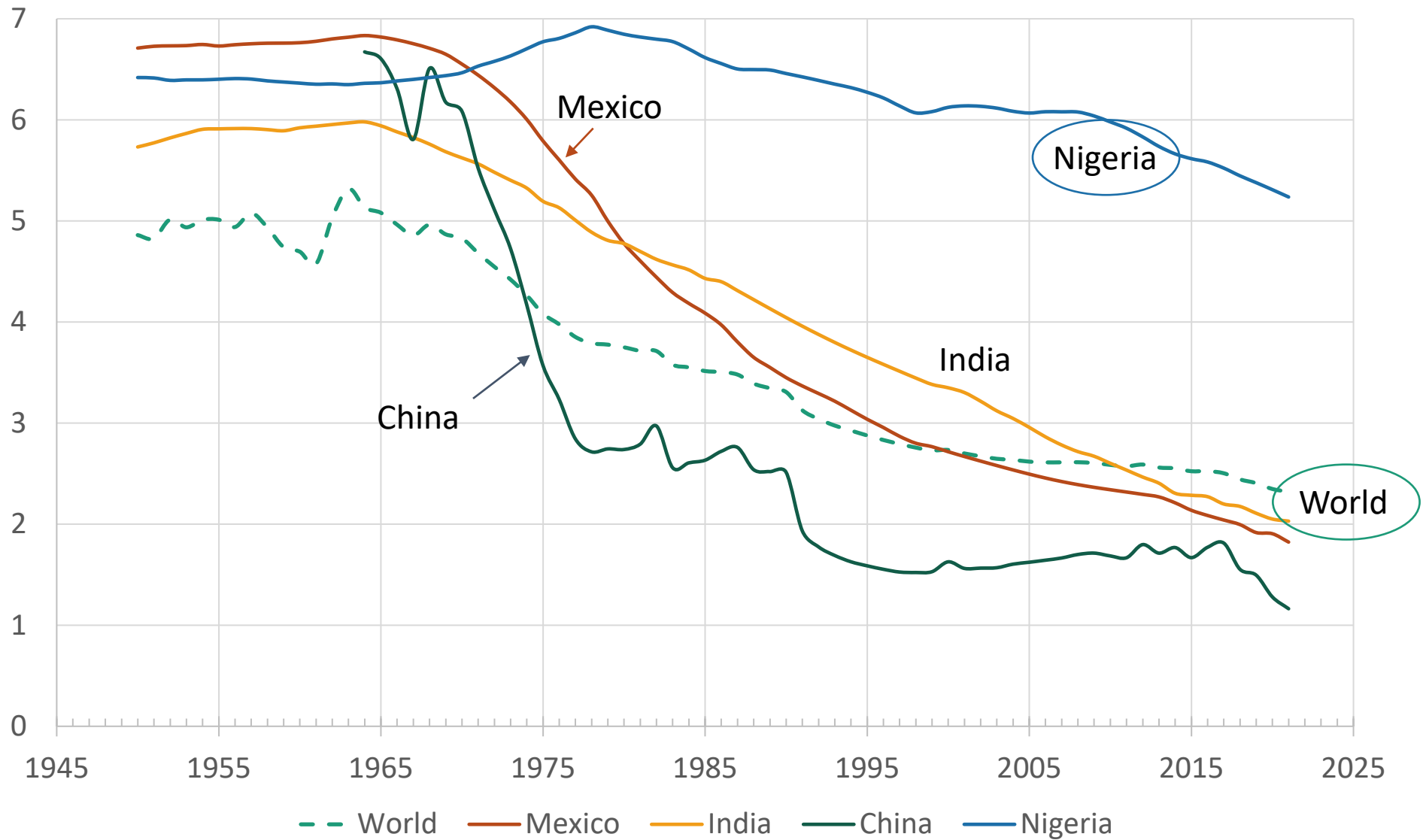
# US Total Fertility Rate (TFR) and Net of Infant, Child Mortality: 1800-2015



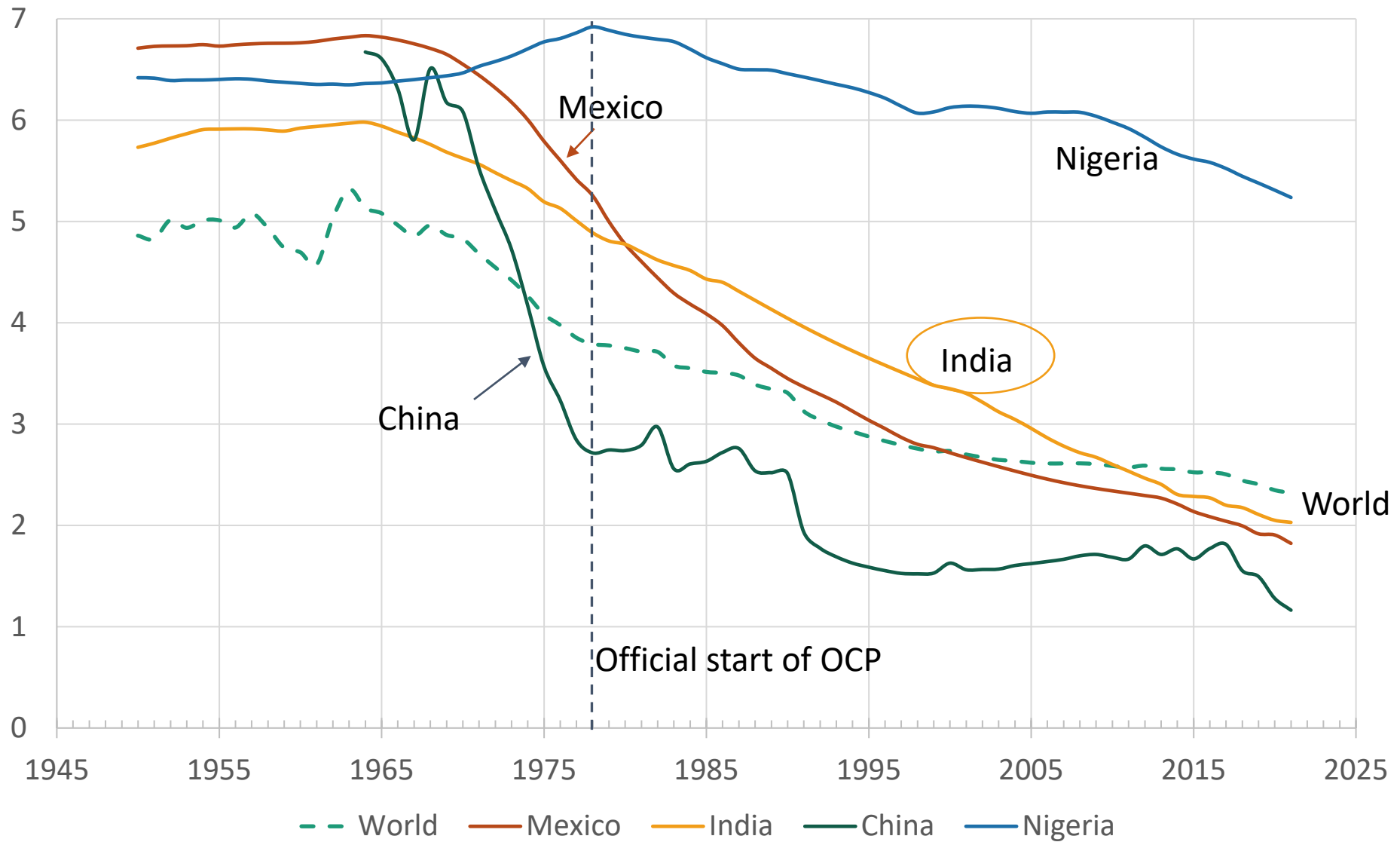
# US Total Fertility Rate (TFR) and Net of Infant, Child Mortality: 1800-2015



# Total Fertility Rate in Four Countries and the World



# Total Fertility Rate in Four Countries and the World





“Empty Planet”

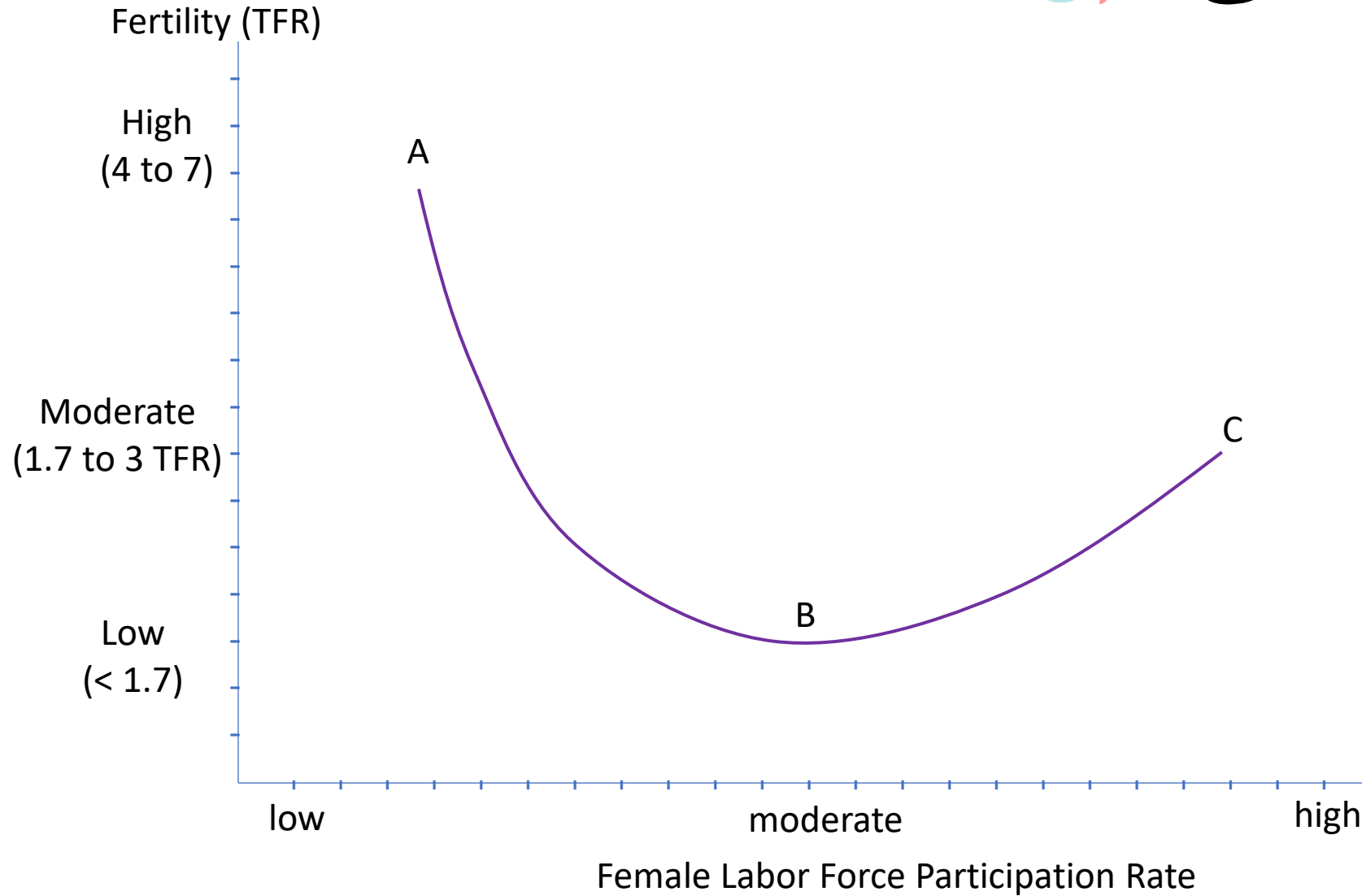


“Expanding Cosmos”



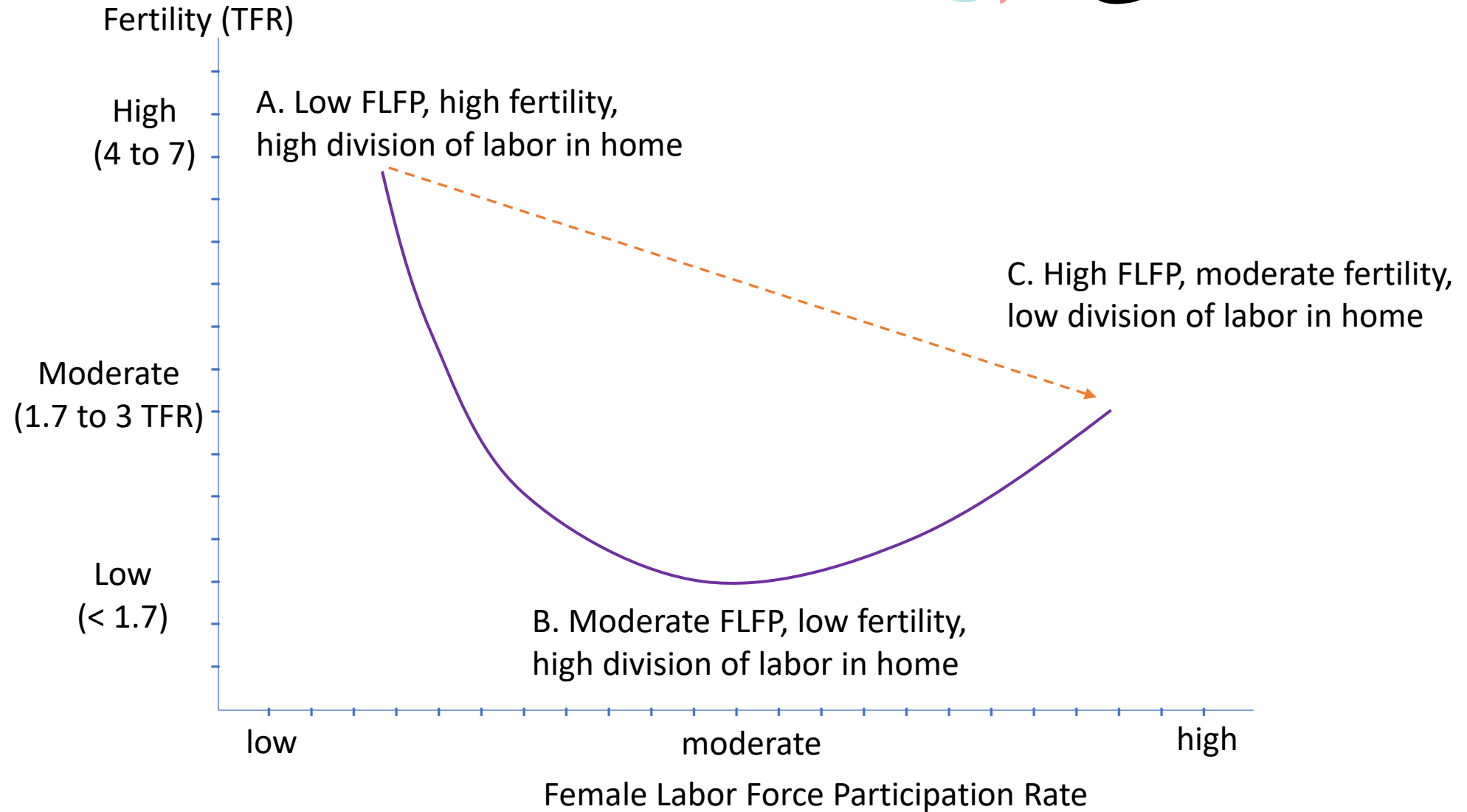
Source: C. Jones, “The End of Economic Growth,” *AER* (2022) as interpreted by ChatGPT

# Three Phases: Schematic

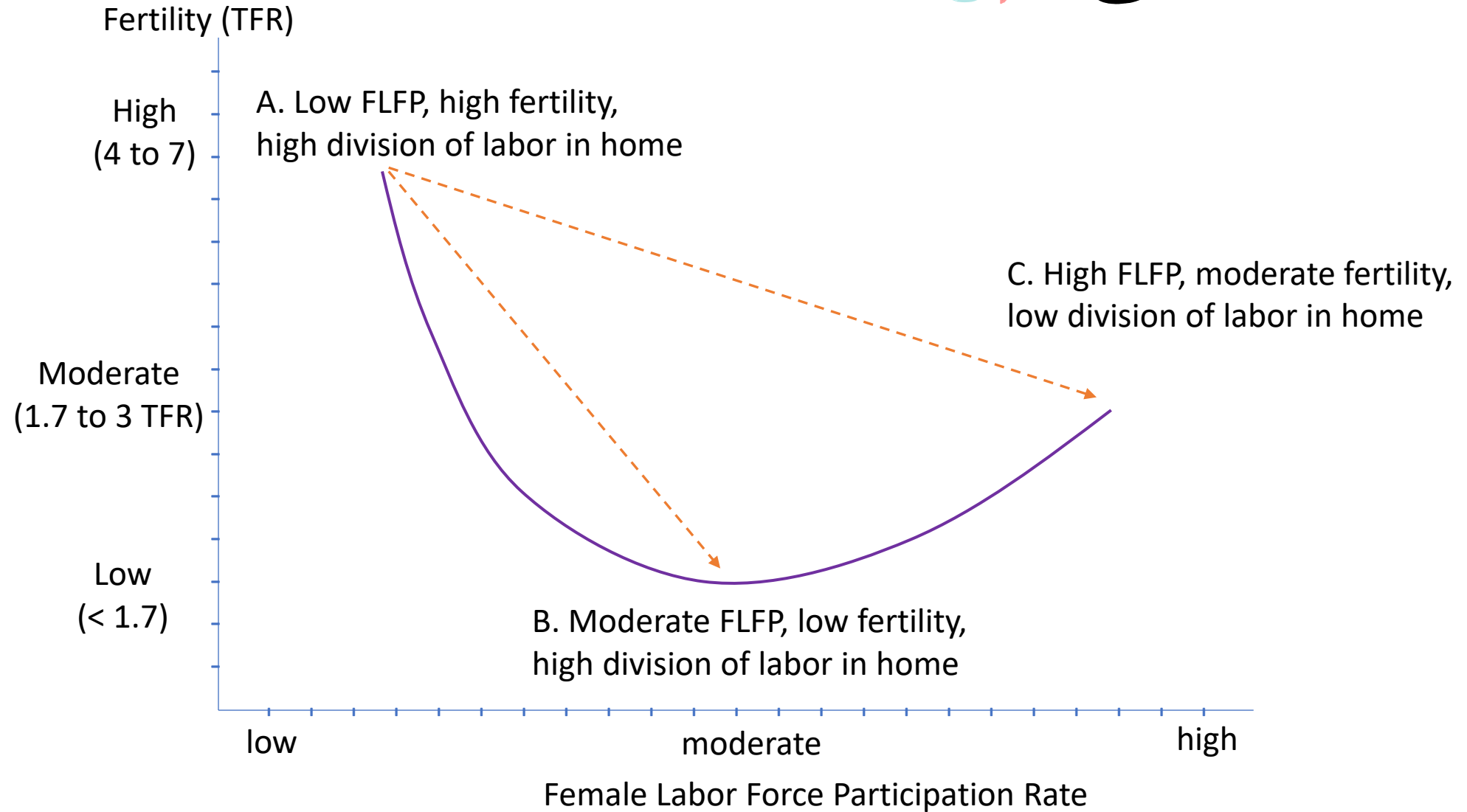




# Three Phases: Schematic



# Three Phases: Schematic







# Country Groupings

- **Group 1 Nations**

US, Great Britain, France, Germany, Denmark, Sweden

- **Group 2 Nations**

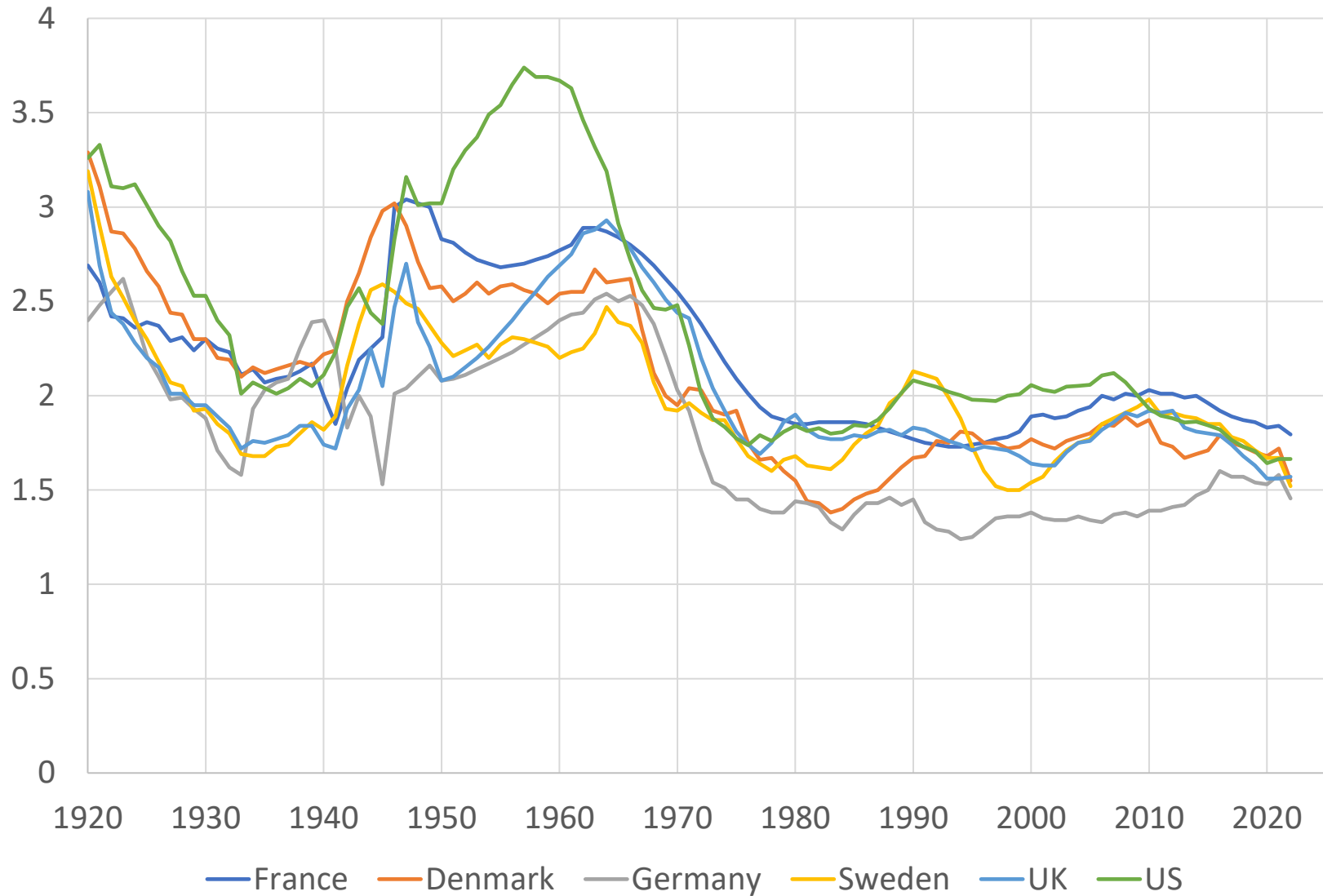
Italy, Spain, Portugal, Greece, Japan, Korea

- **Group 3 Nations**

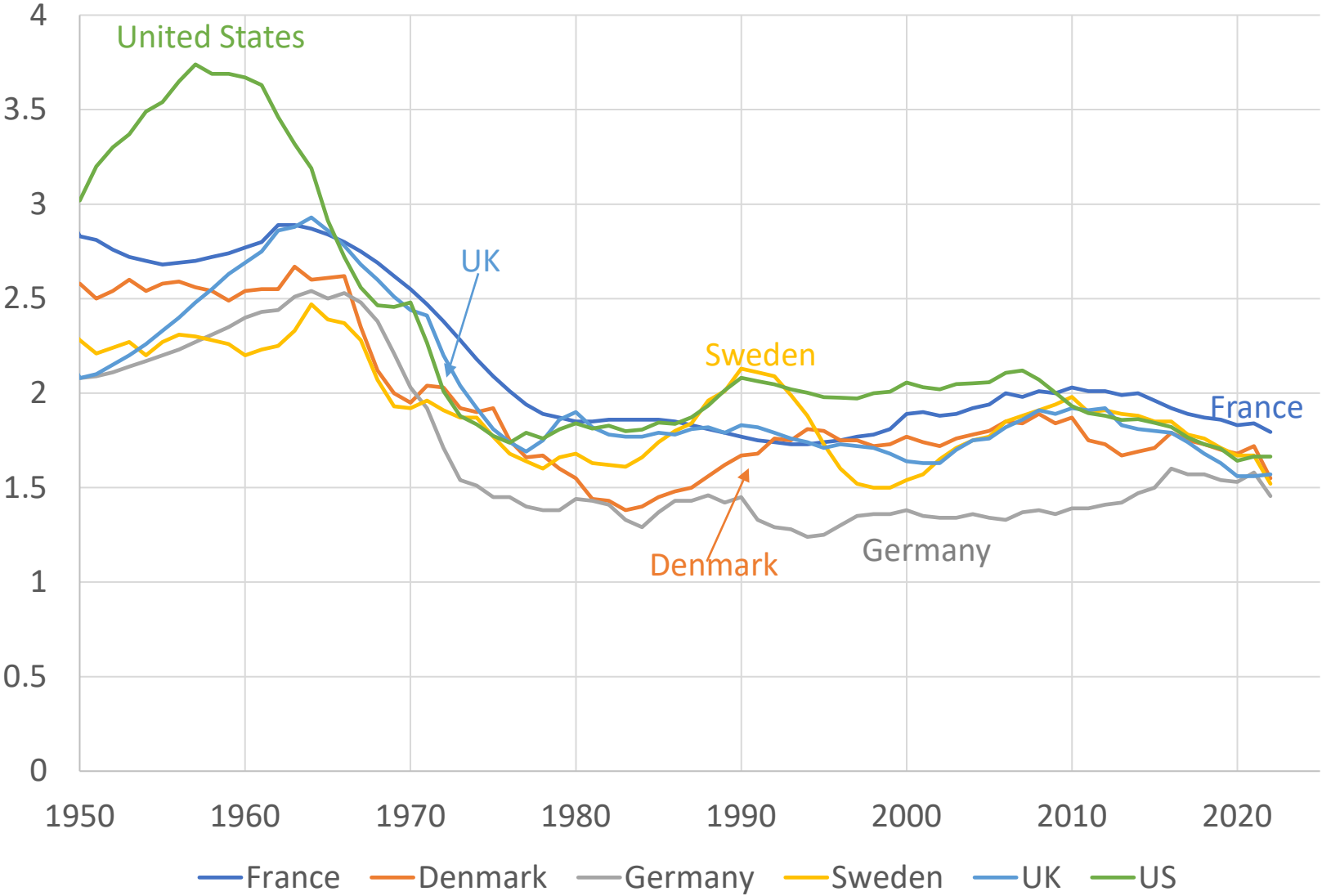
Estonia, Latvia, Lithuania, Romania, Hungary, Croatia, Slovenia



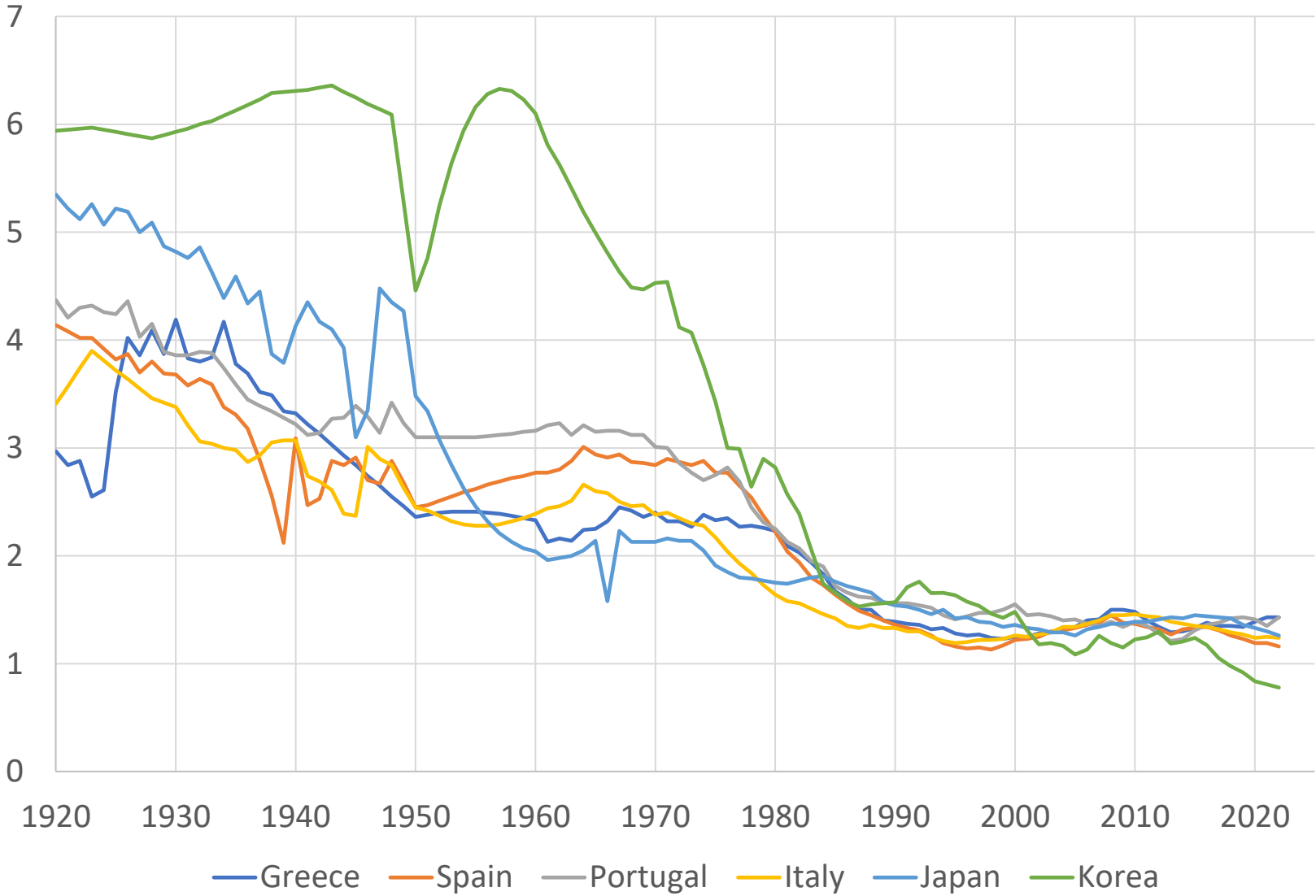
# Total Fertility Rate: 1920-2022, Group 1 Nations



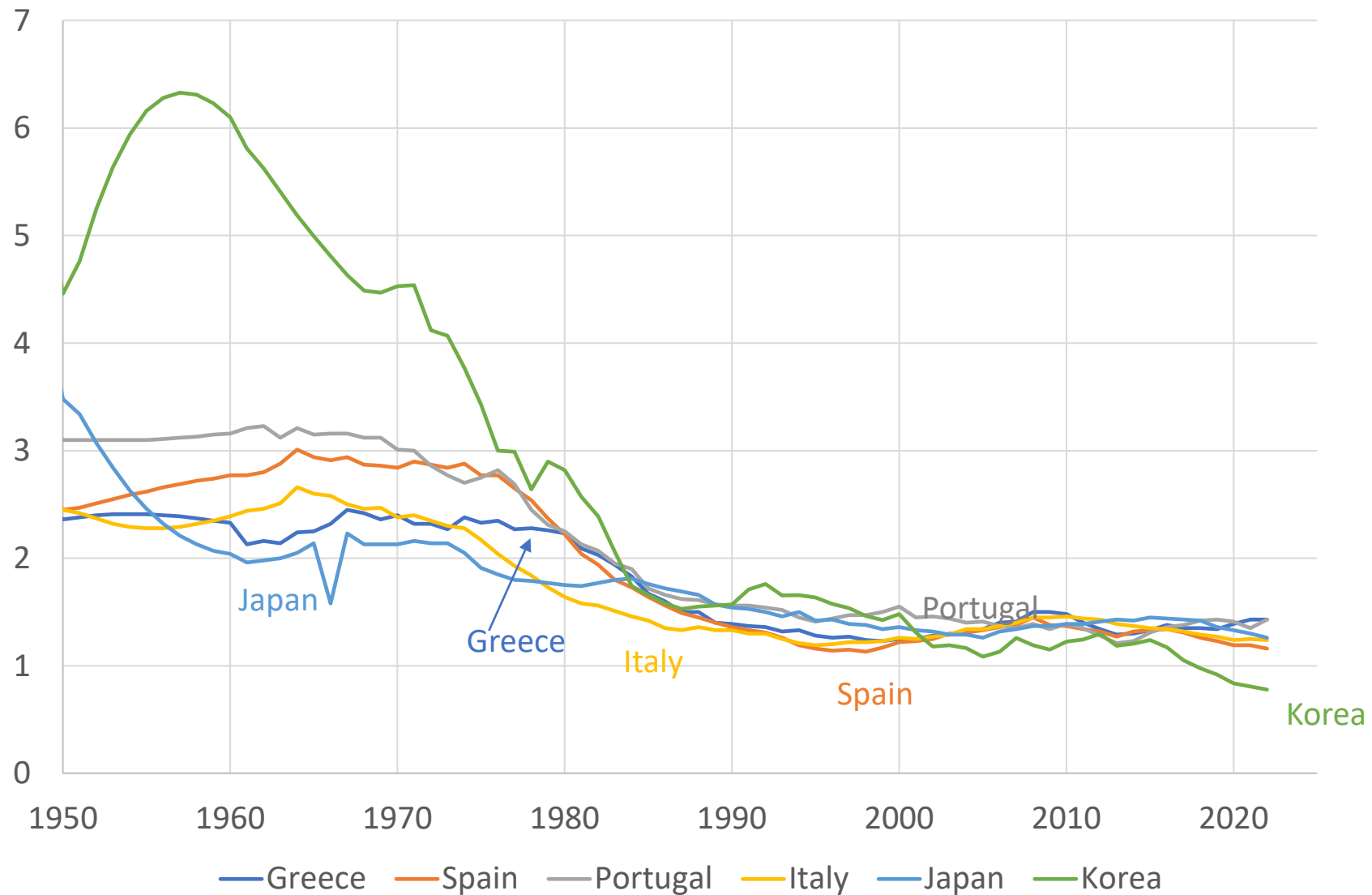
# Total Fertility Rate: 1950-2022, Group 1 Nations



# Total Fertility Rate: 1920-2022, Group 2 Nations

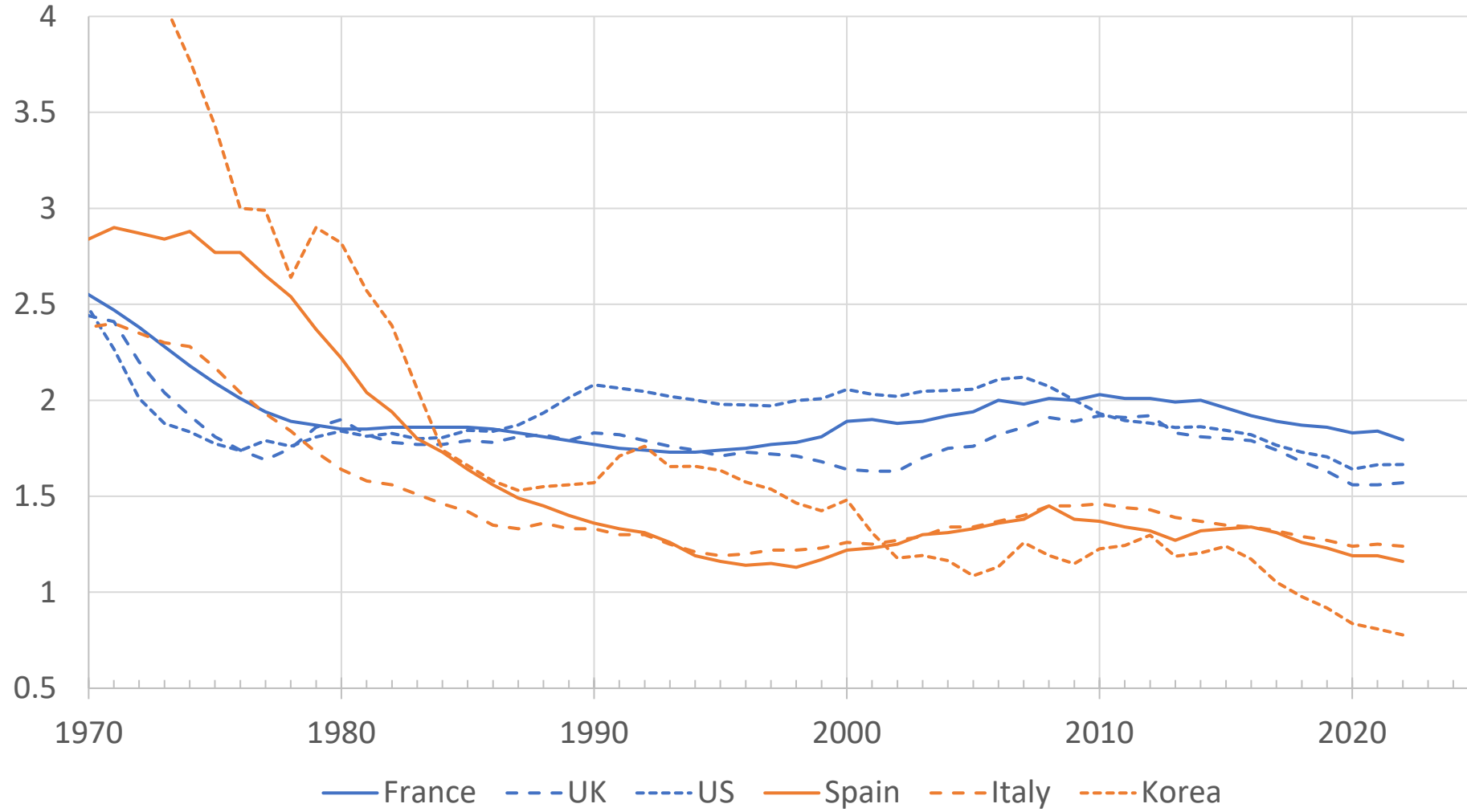


# Total Fertility Rate: 1950-2022, Group 2 Nations

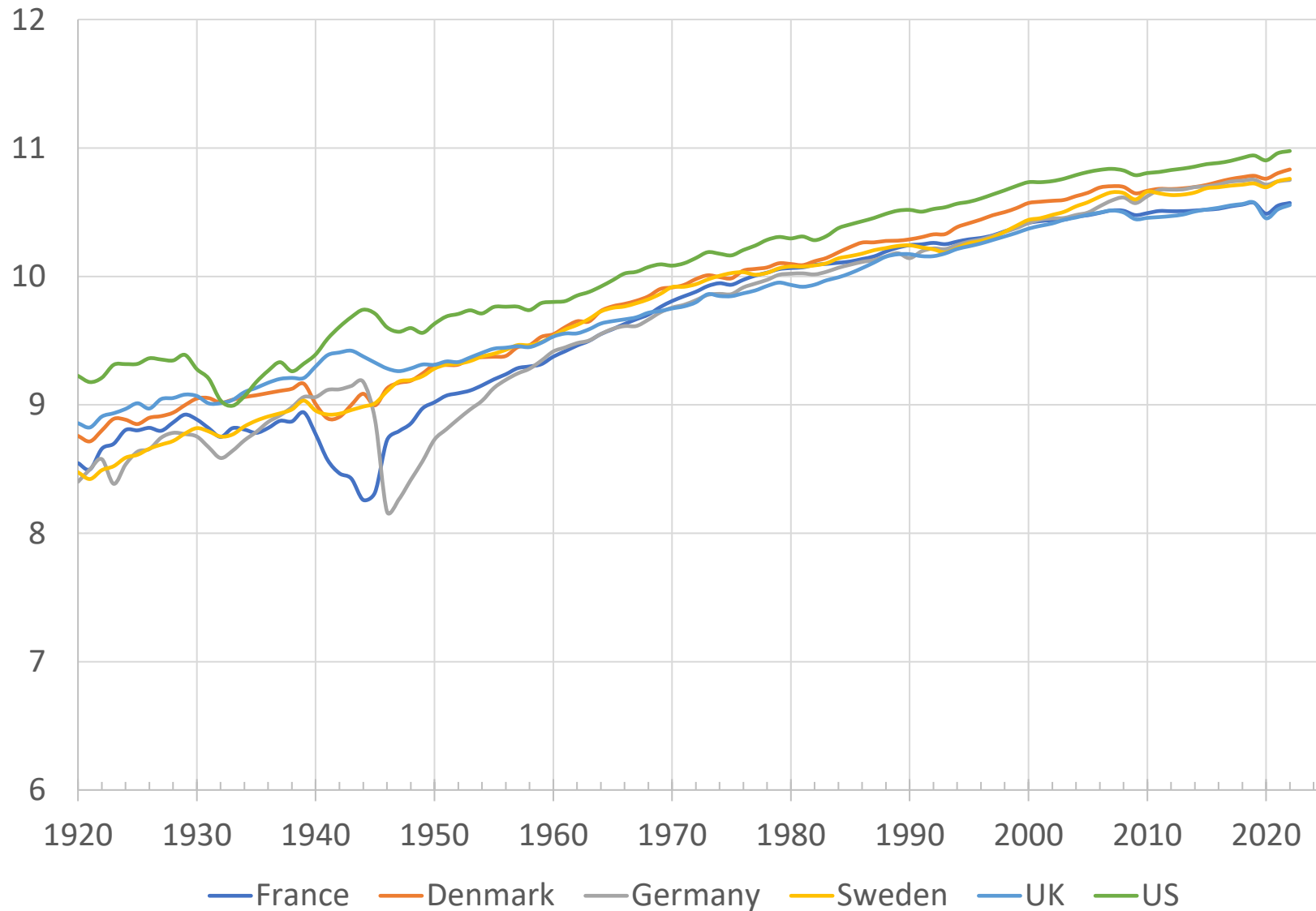




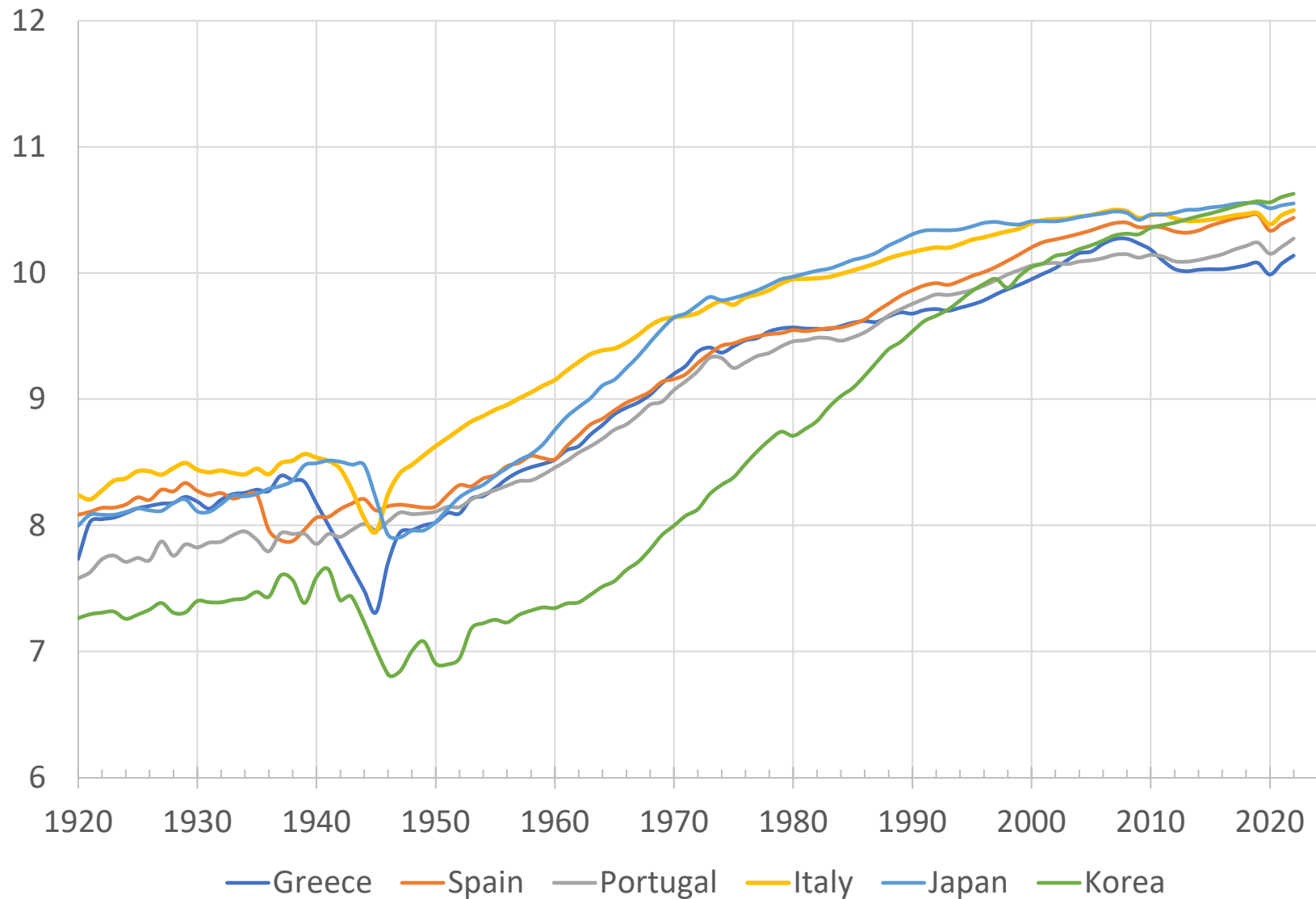
# TFR: 1970-2022, 3 Group 1 (Blue), 3 Group 2 (Orange) Nations



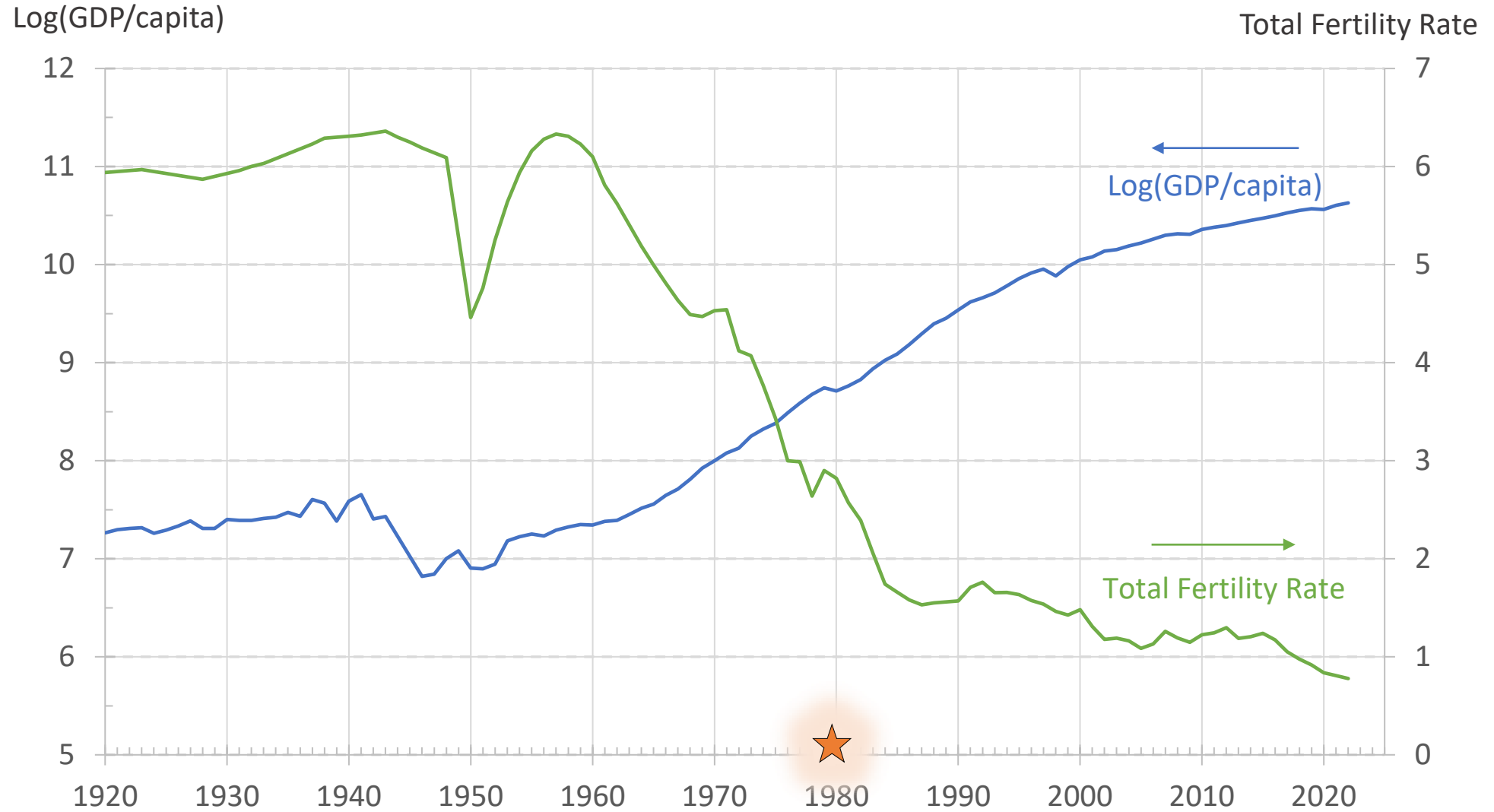
# Log(GDP/capita) PPP: 1920-2022, Group 1 Nations



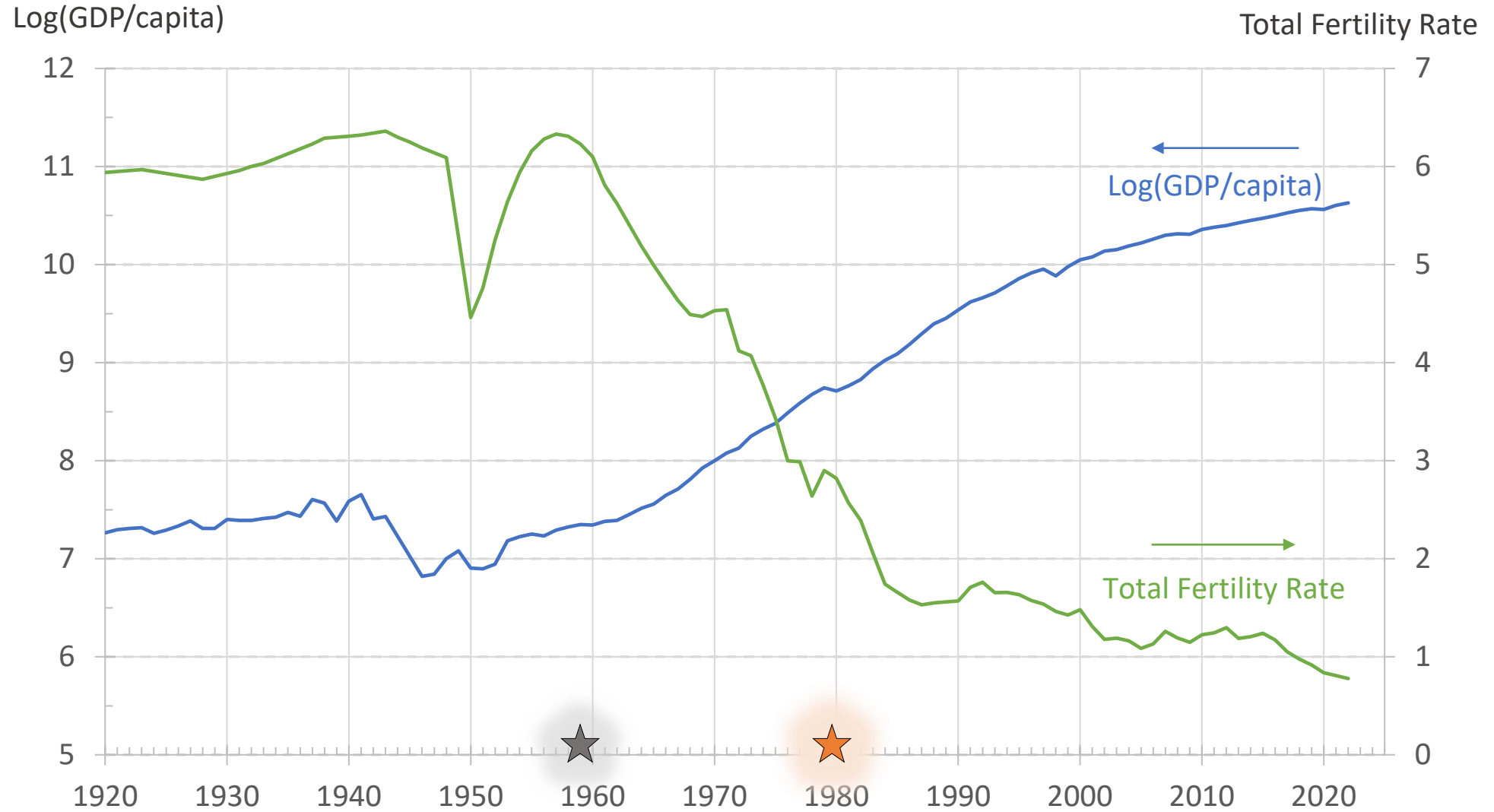
# Log(GDP/capita) PPP: 1920-2022, Group 2 Nations



# Log(GDP/capita) PPP, TFR: 1920-2022, Korea

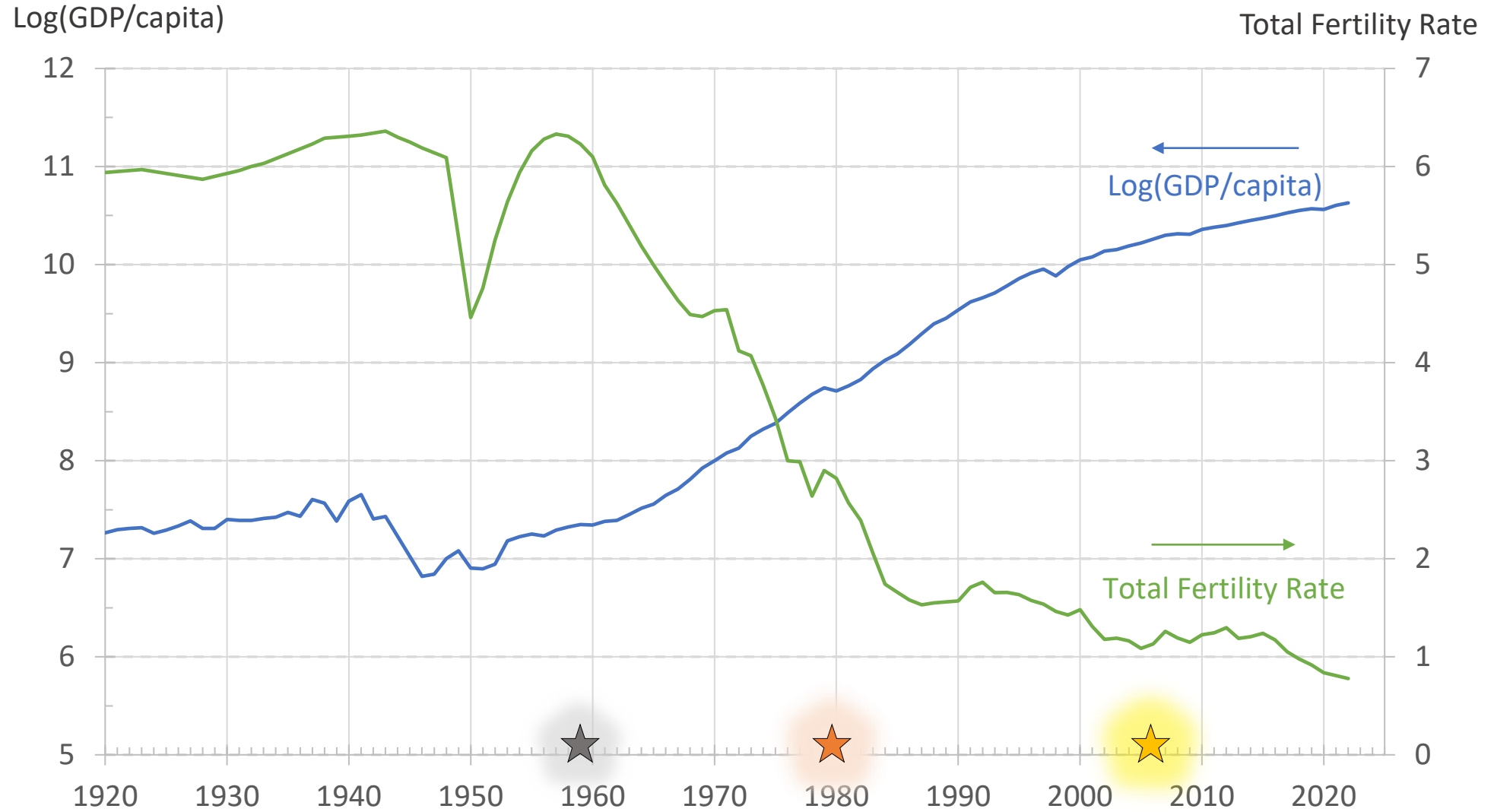


# Log(GDP/capita) PPP, TFR: 1920-2022, Korea

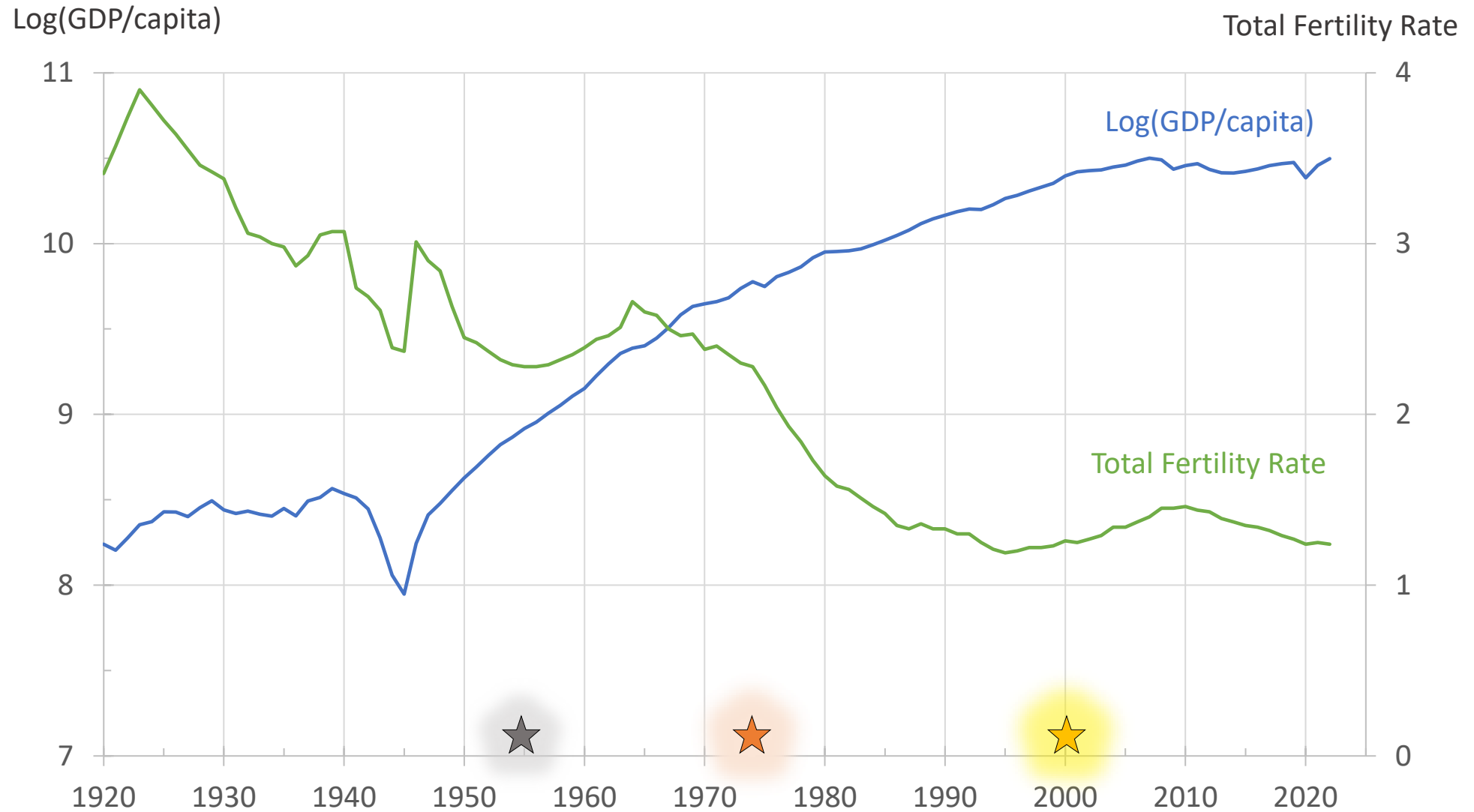




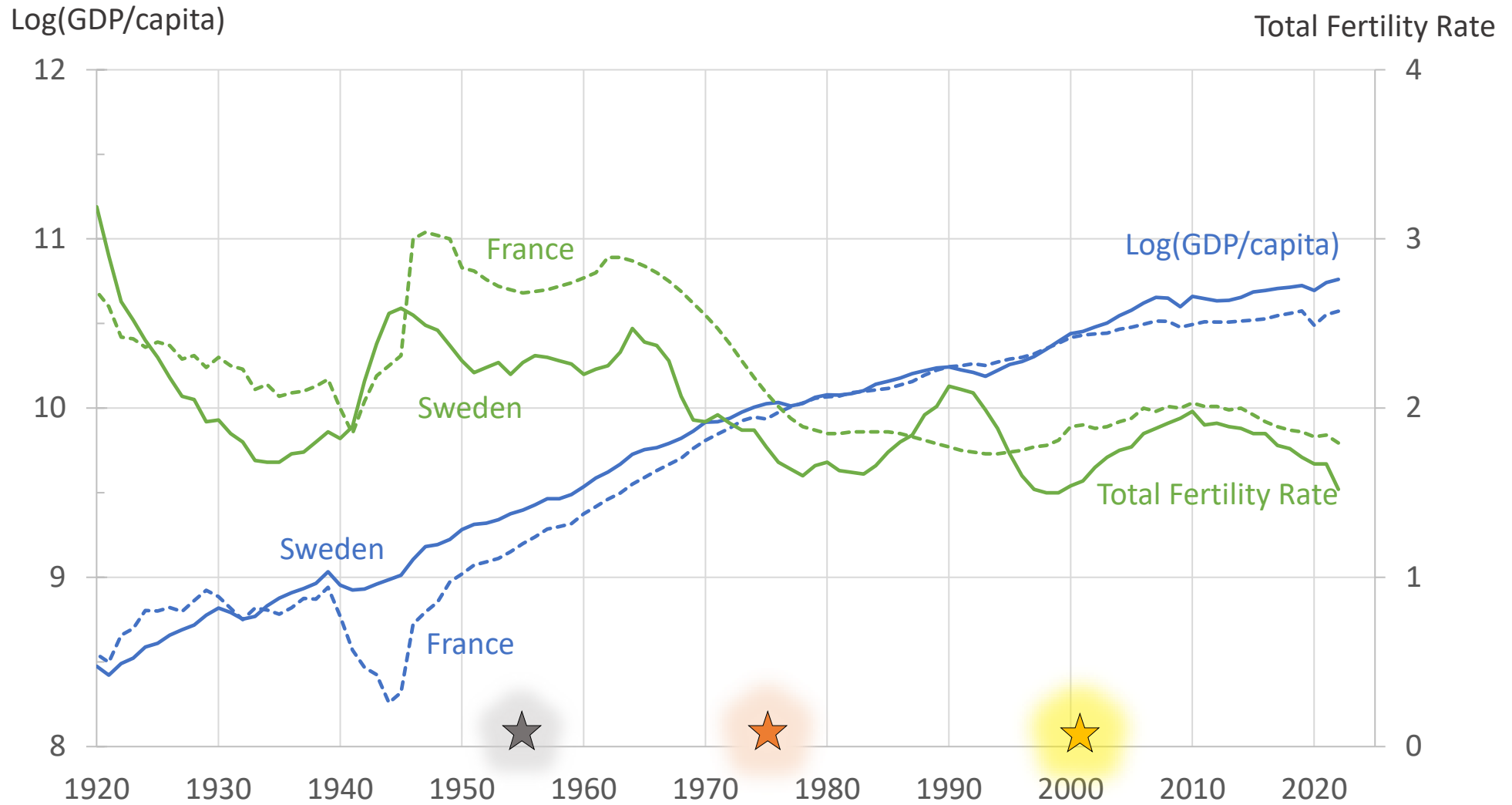
# Log(GDP/capita) PPP, TFR: 1920-2022, Korea



# Log(GDP/capita) PPP, TFR: 1920-2022, Italy

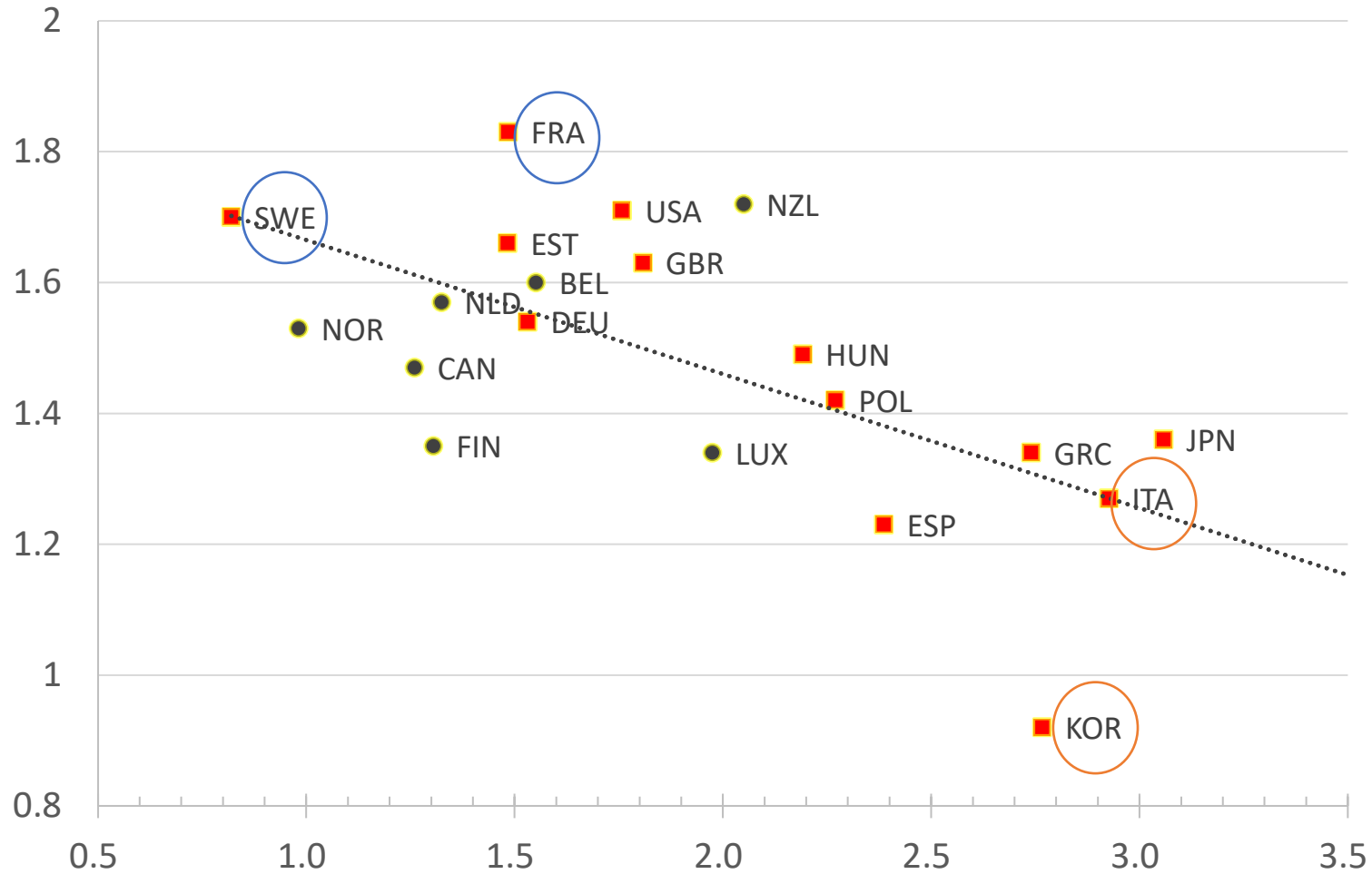


# Log(GDP/capita), TFR: 1920-2022, France, Sweden



# Fertility is Negatively Related to Gender Disparities in HH & Care Work

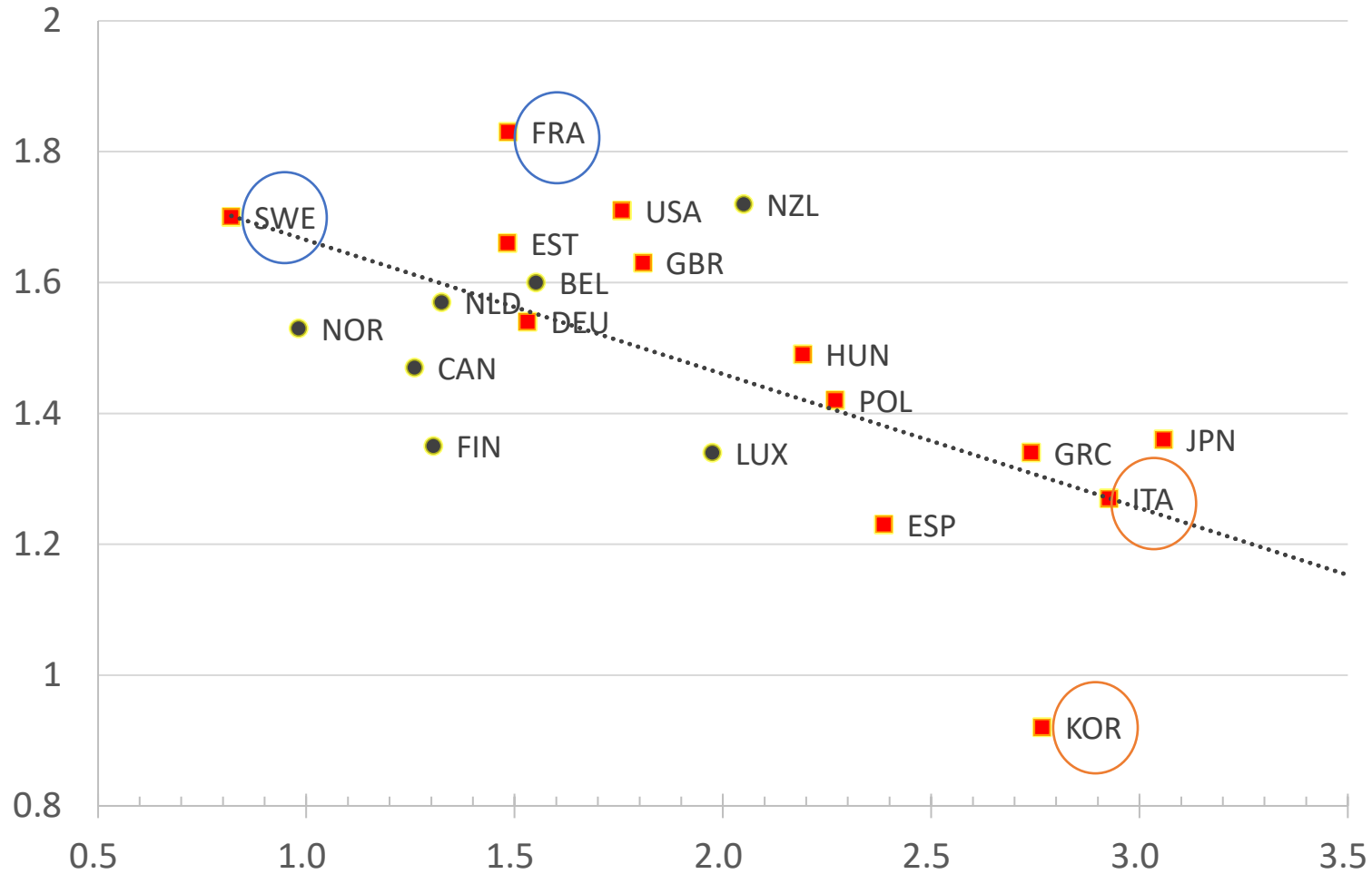
Total Fertility Rate 2019



Hours per Day (mainly for 2019) that the average woman does unpaid household and care work *more* than does the average male

# Fertility is Negatively Related to Gender Disparities in HH & Care Work

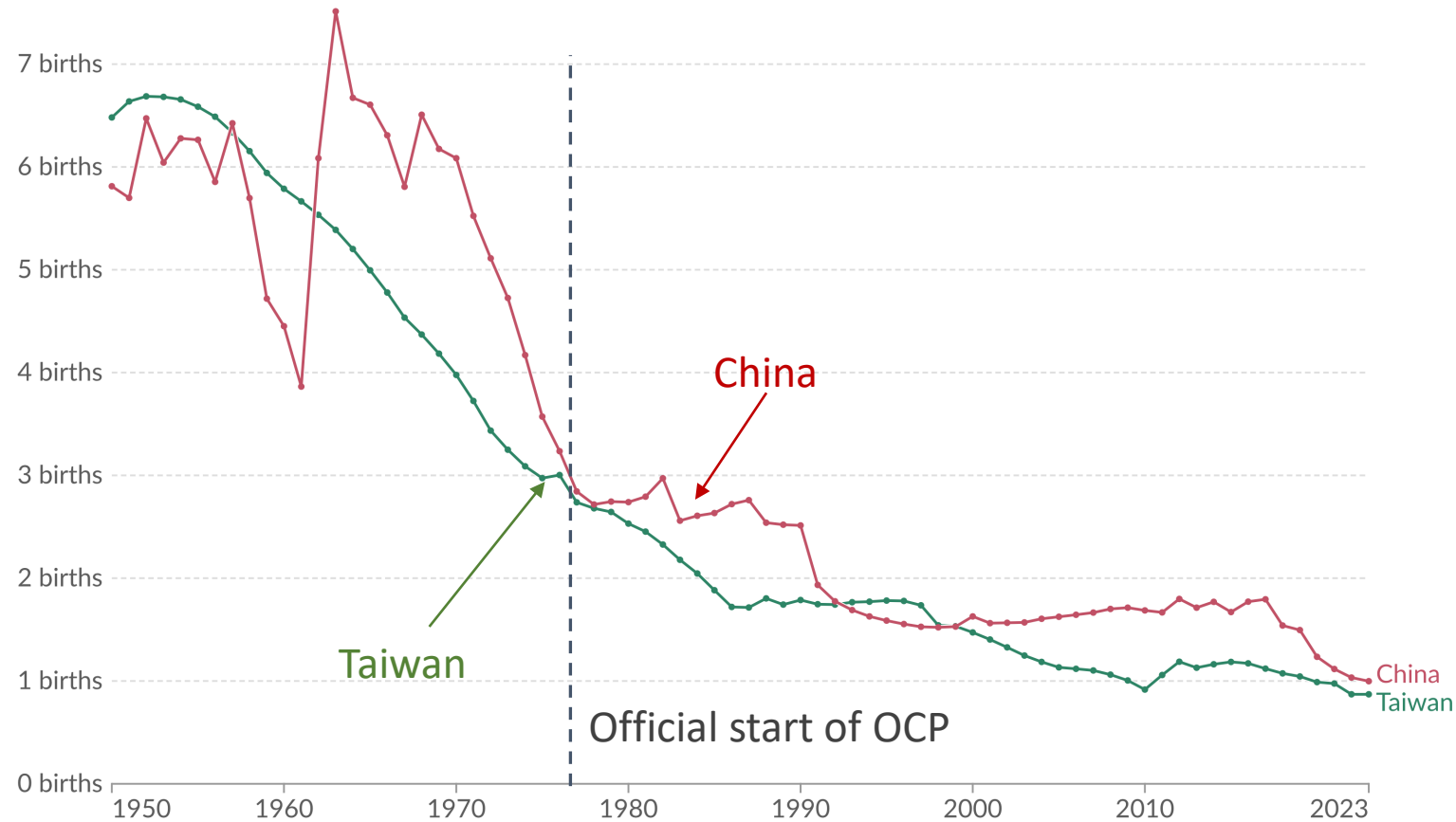
Total Fertility Rate 2019



Hours per Day (mainly for 2019) that the average woman does unpaid household and care work *more* than does the average male

# Fertility rate: children per woman

The fertility rate<sup>1</sup>, expressed as the number of children per woman, is based on age-specific fertility rates in one particular year.



Data source: UN, World Population Prospects (2024)

OurWorldInData.org/fertility-rate | CC BY

**1. Fertility rate:** The total fertility rate is a period metric. It summarizes fertility rates across all age groups in one particular year. For a given year, the total fertility rate represents the average number of children that would be born to a hypothetical woman if she (1) lived to the end of her childbearing years, and (2) experienced the same age-specific fertility rates throughout her whole reproductive life as the age-specific fertility rates seen in that particular year. It is different from the actual average number of children that women have. The fertility rate should not be confused with biological fertility, which is about the ability of a person to conceive. [Read more: Fertility rate](#)

# Summary

- Plummeting birth rates are nearly ubiquitous.
- Not always due to changes in contraception, abortion, or legal rights.
- Not always due to changes in governmental policies and benefits.
- They are often due to changes in the macroeconomy especially those that lead to generational and gendered conflicts.
- The impact on the macroeconomy is a rather different topic.

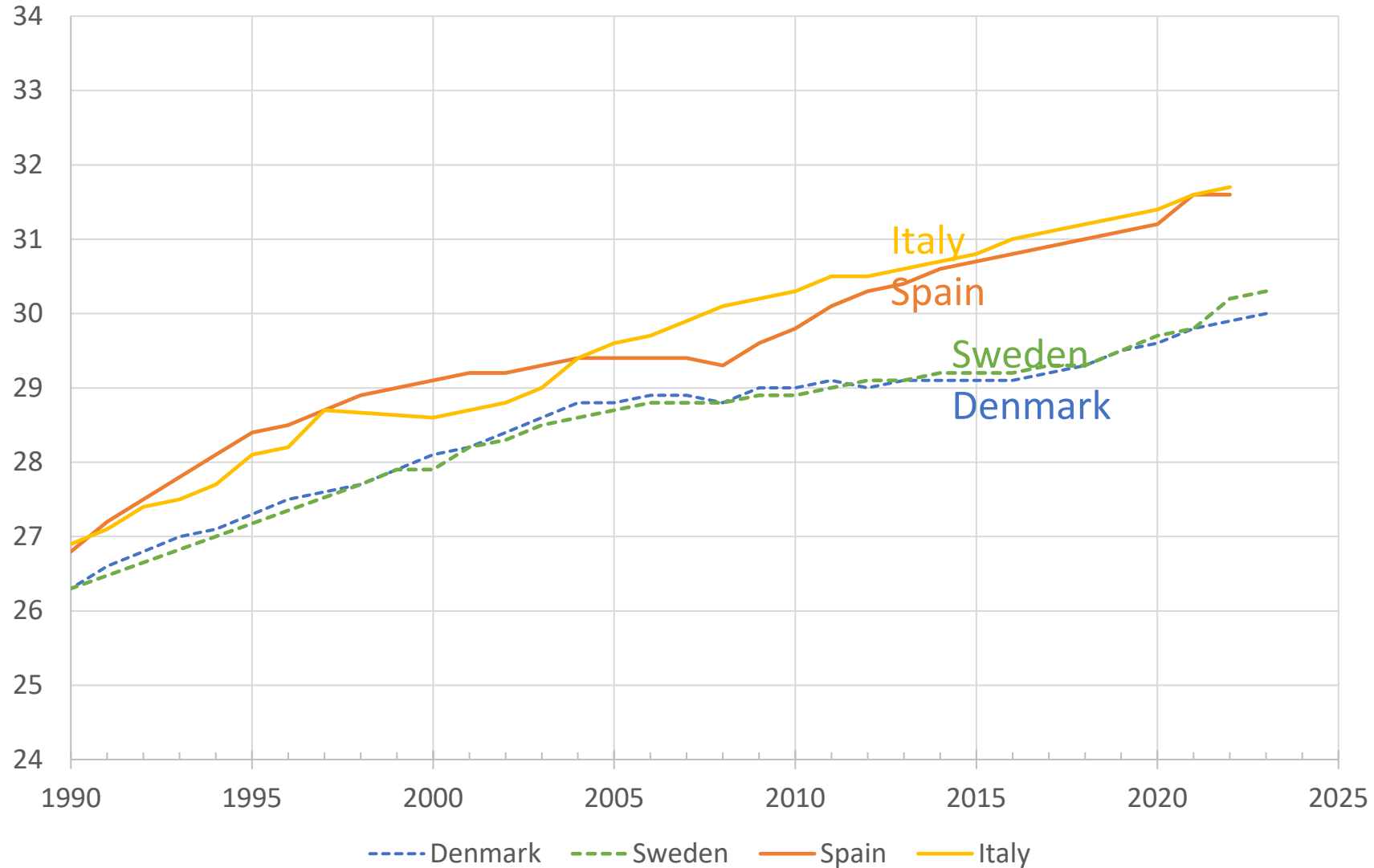




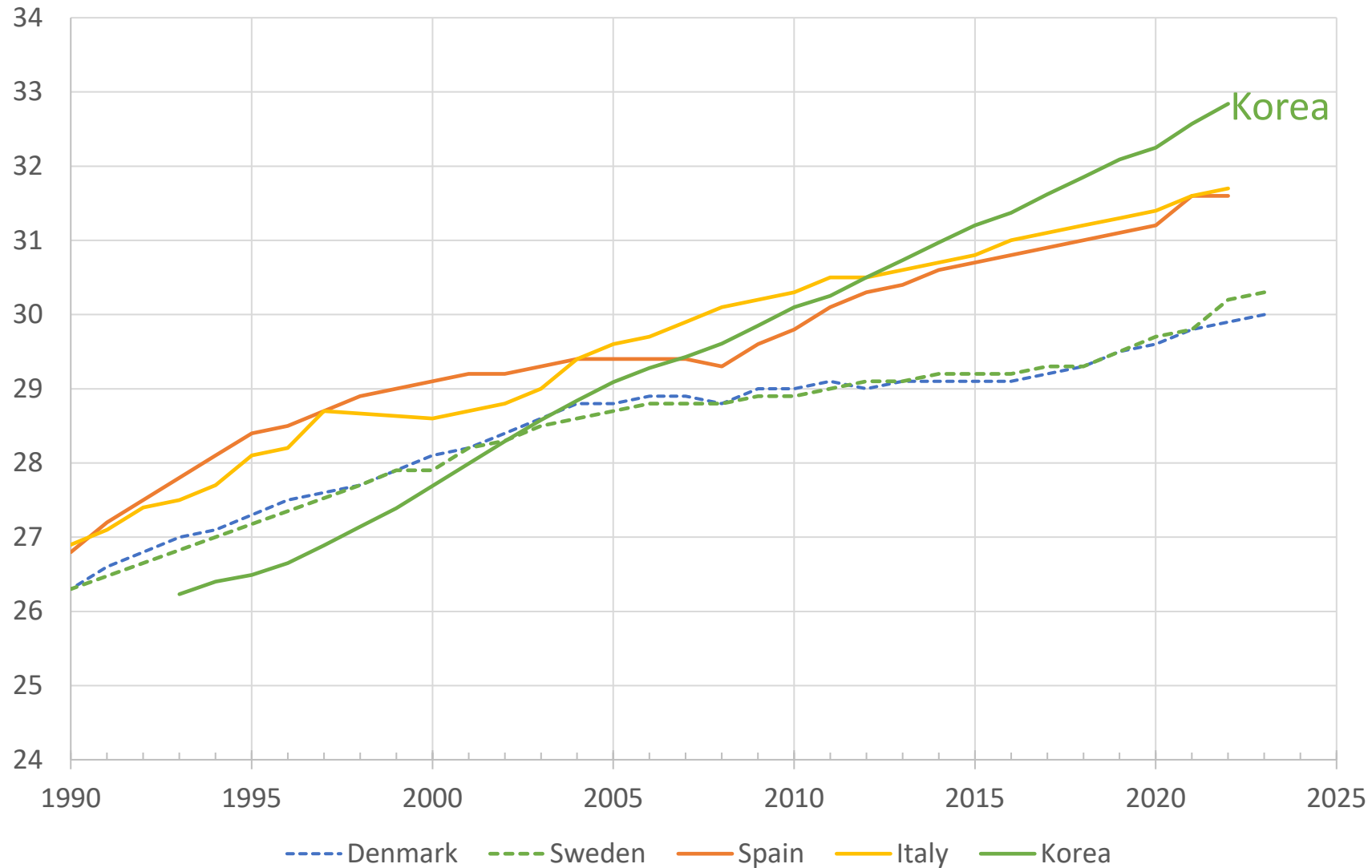


**THE BABIES  
THANK YOU  
(and so do I)**

# Age at First Birth for Women in Italy and Spain is Higher than in Sweden and Denmark

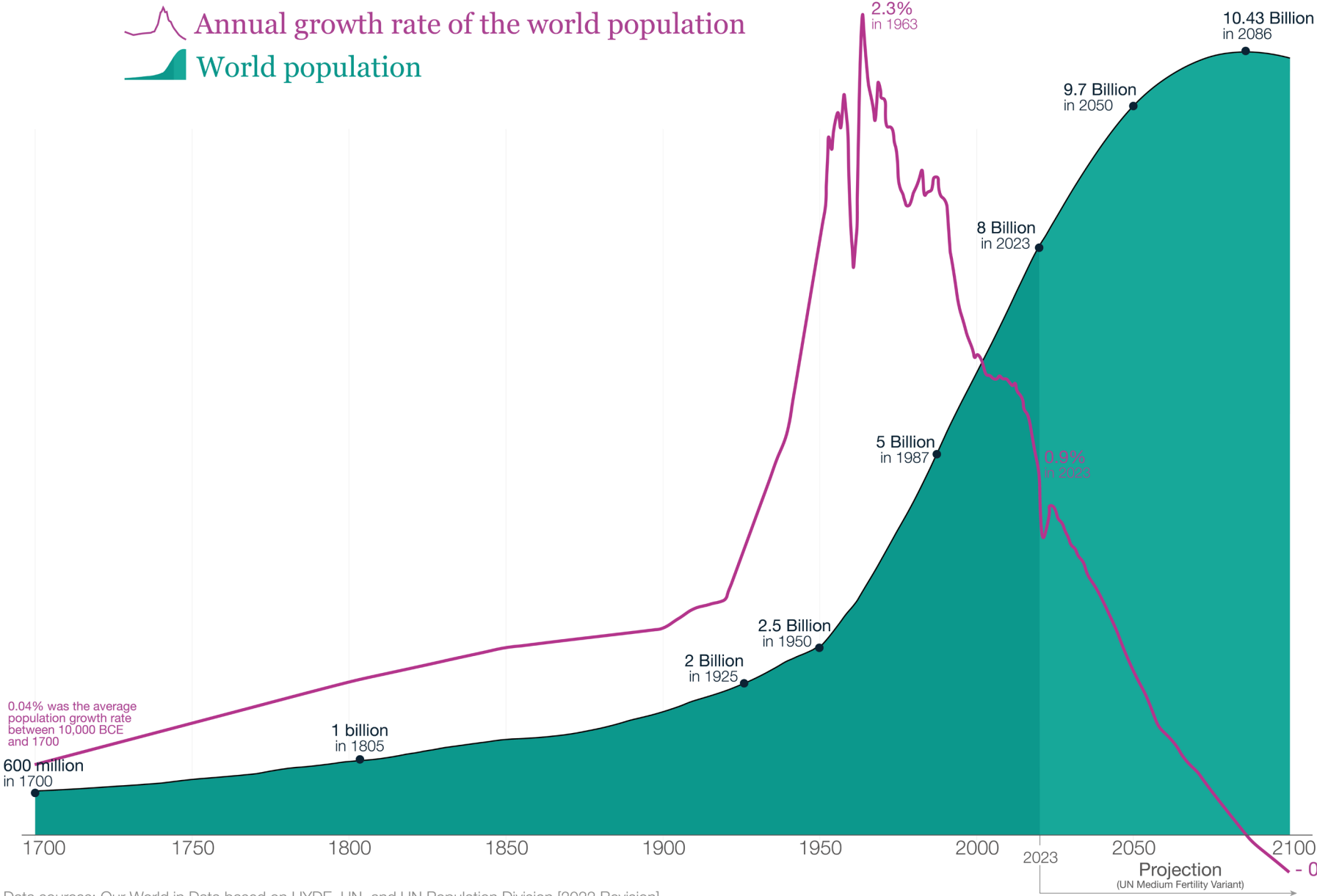


# Age at First Birth for Women is Highest in Korea



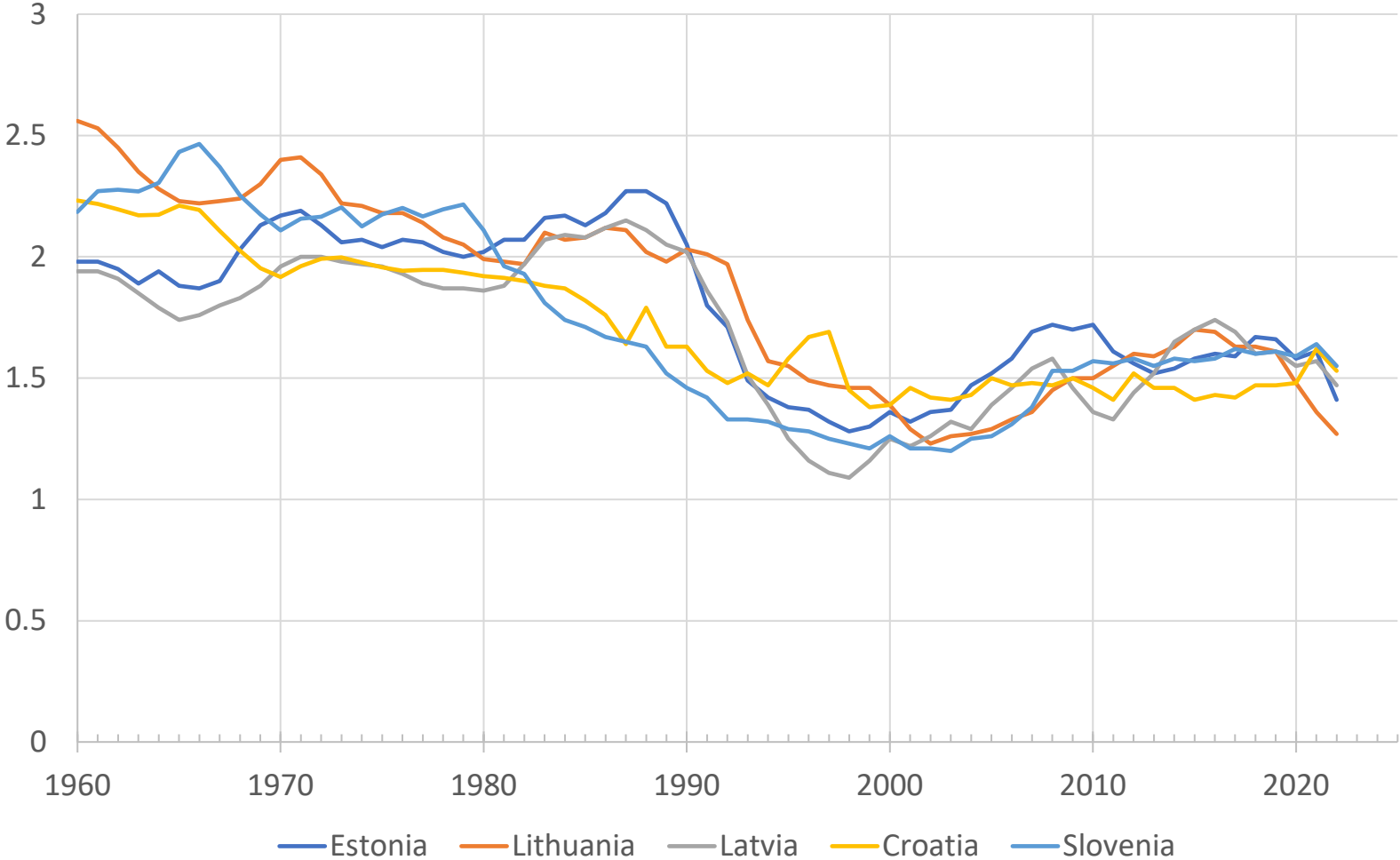
# World population growth, 1700-2100

Annual growth rate of the world population  
World population



Data sources: Our World in Data based on HYDE, UN, and UN Population Division [2022 Revision]  
This is a visualization from [OurWorldinData.org](https://OurWorldinData.org), where you find data and research on how the world is changing.

# Total Fertility Rate: 1960-2022, 5 Eastern European, Eurozone Nations



# Total Fertility Rate: 1960-2022, 4 Eastern European, EU Nations

