

La teoria malthusiana

1. The primary resource is food. Its scarcity causes mortality to increase, slowing (or reversing) population growth and reestablishing equilibrium.
2. The law of diminishing returns is unavoidable. Cultivation of new land and intensification of labor in response to demographic growth add progressively smaller increments to production for each additional unit of land or labor.
3. Production or productivity increases resulting from invention or innovation provide only temporary relief, since any gains achieved are inevitably canceled out by demographic growth.
4. Awareness of the vicious cycle of population growth and positive checks may lead a population to check its prolificity (and so demographic increase) by means of nuptial restraint.

'+' = efecte positiu

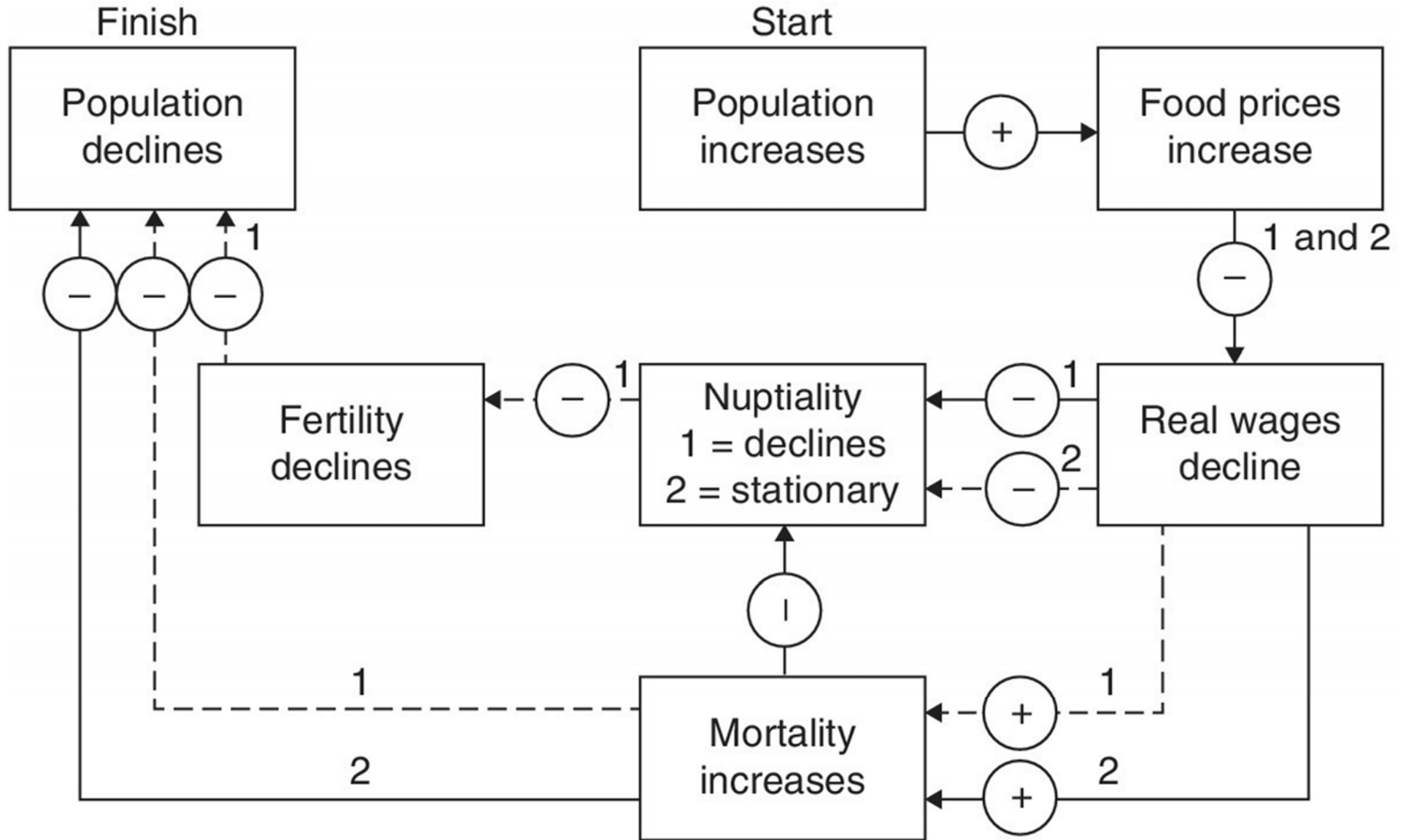
'__' = relació forta

Expansió

'-' = efecte negatiu

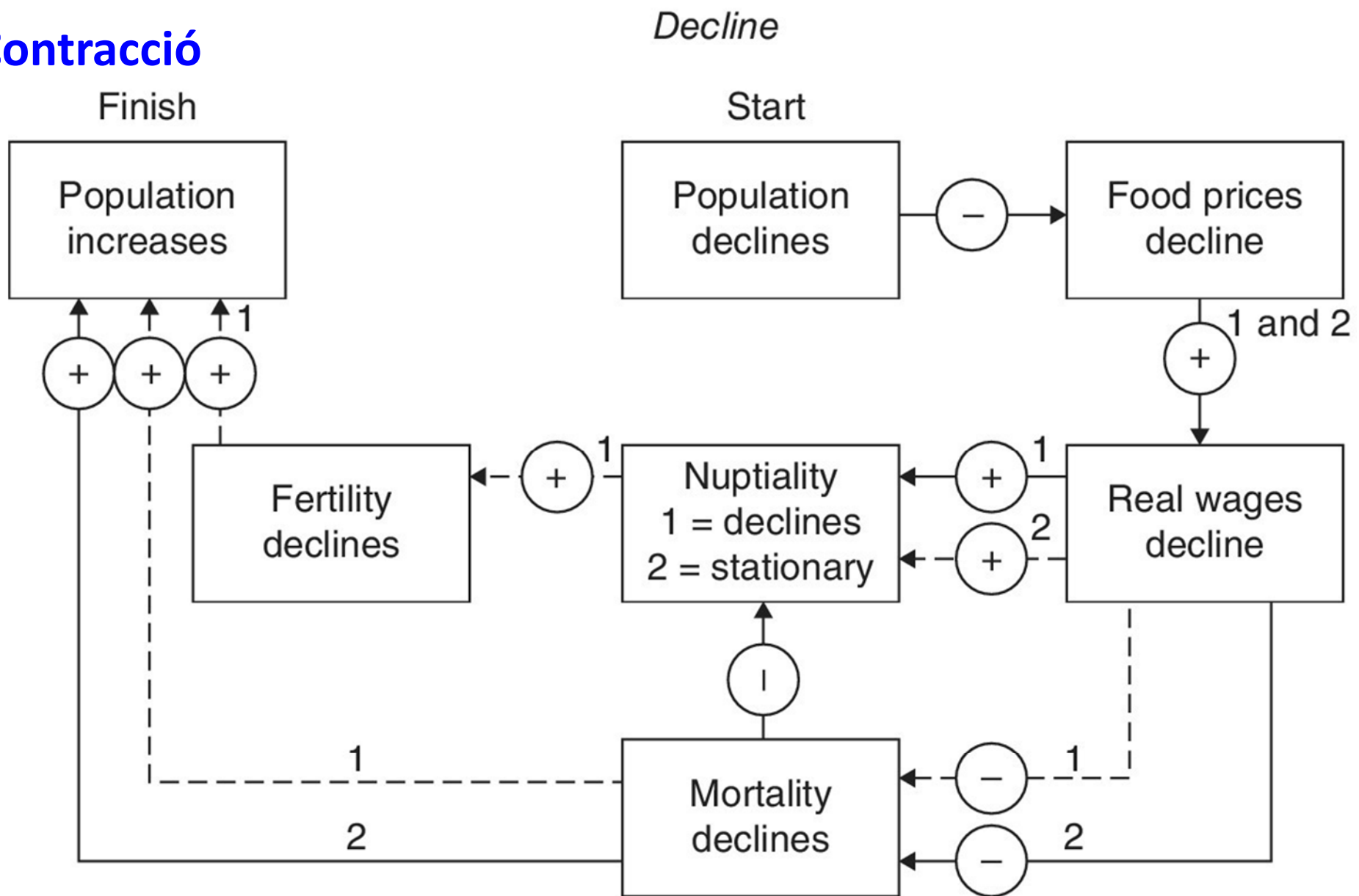
'- -' = relació feble

Expansion



Massimo Livi-Bacci (2017): *A concise history of world population*, Fig. 3.1

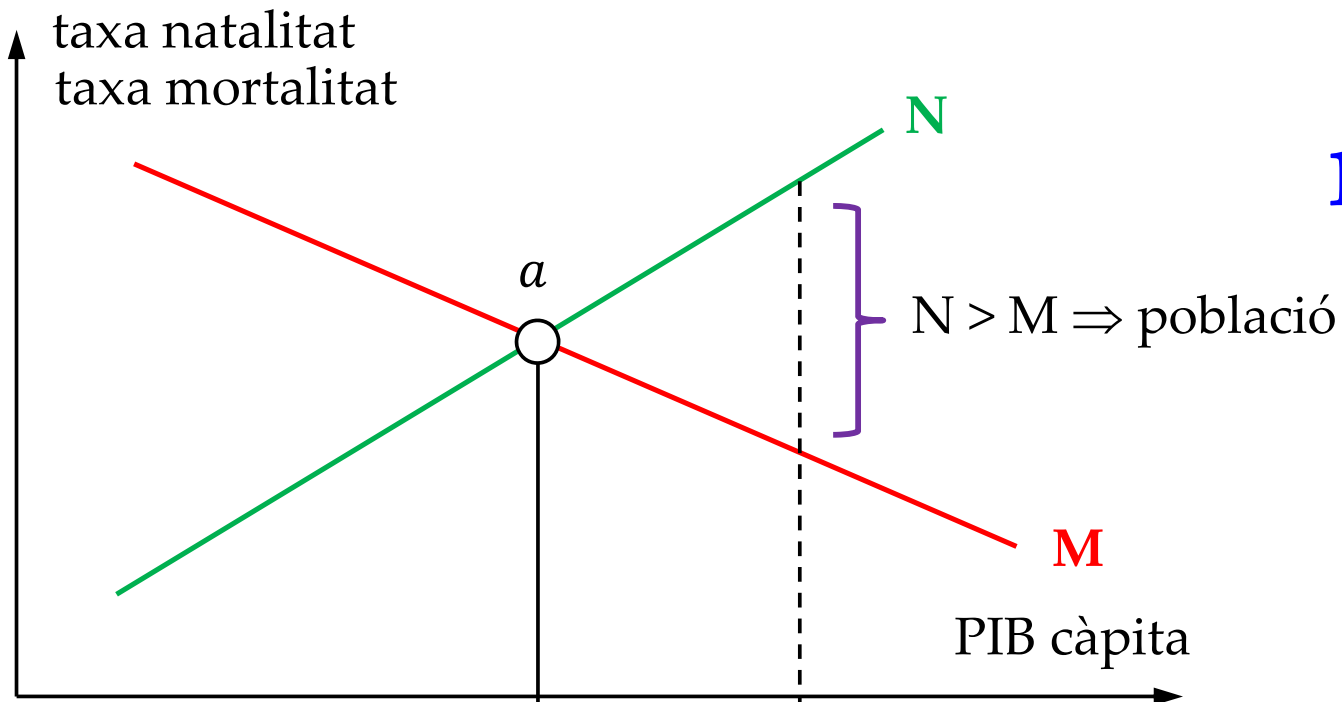
Contracció



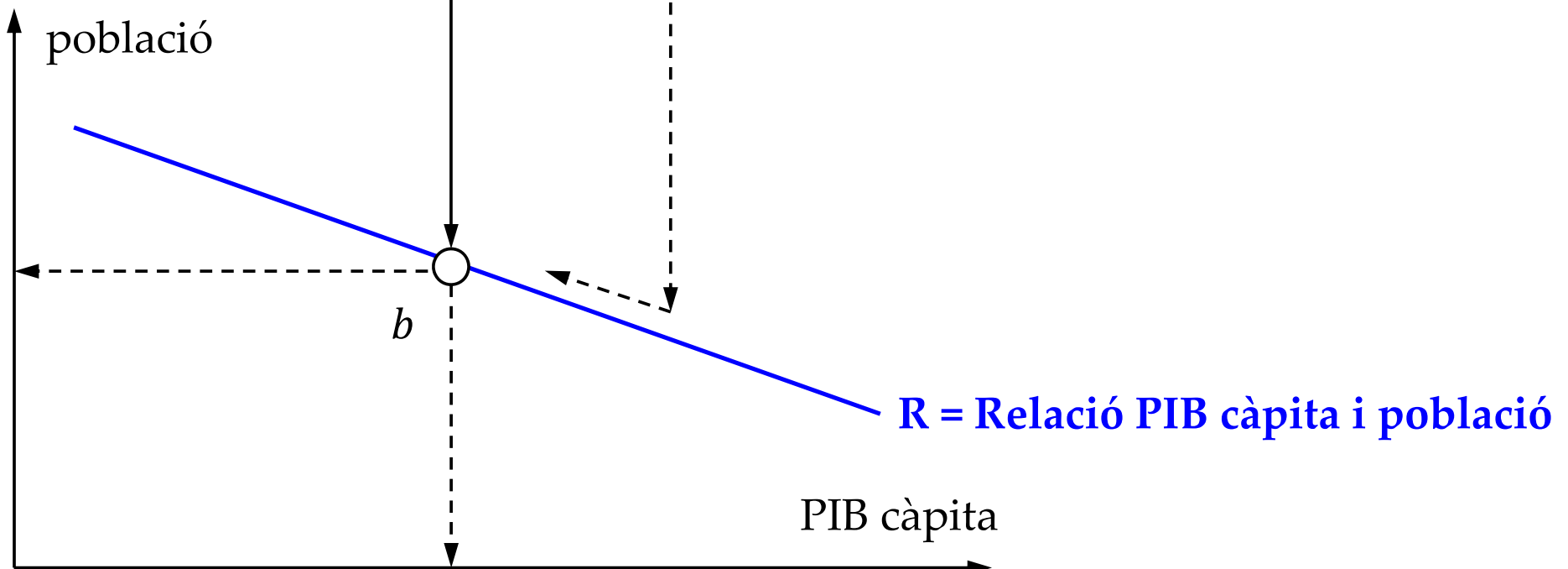
Arrows indicate the presumed direction of causality, + and - symbols indicate positive and negative effects on the next step. Dotted lines indicate a weaker relationship than do solid lines. The role of fertility is strong for path 1 and weak for path 2.

Massimo Livi-Bacci (2017): A concise history of world population, Fig. 3.1

Un model malthusià

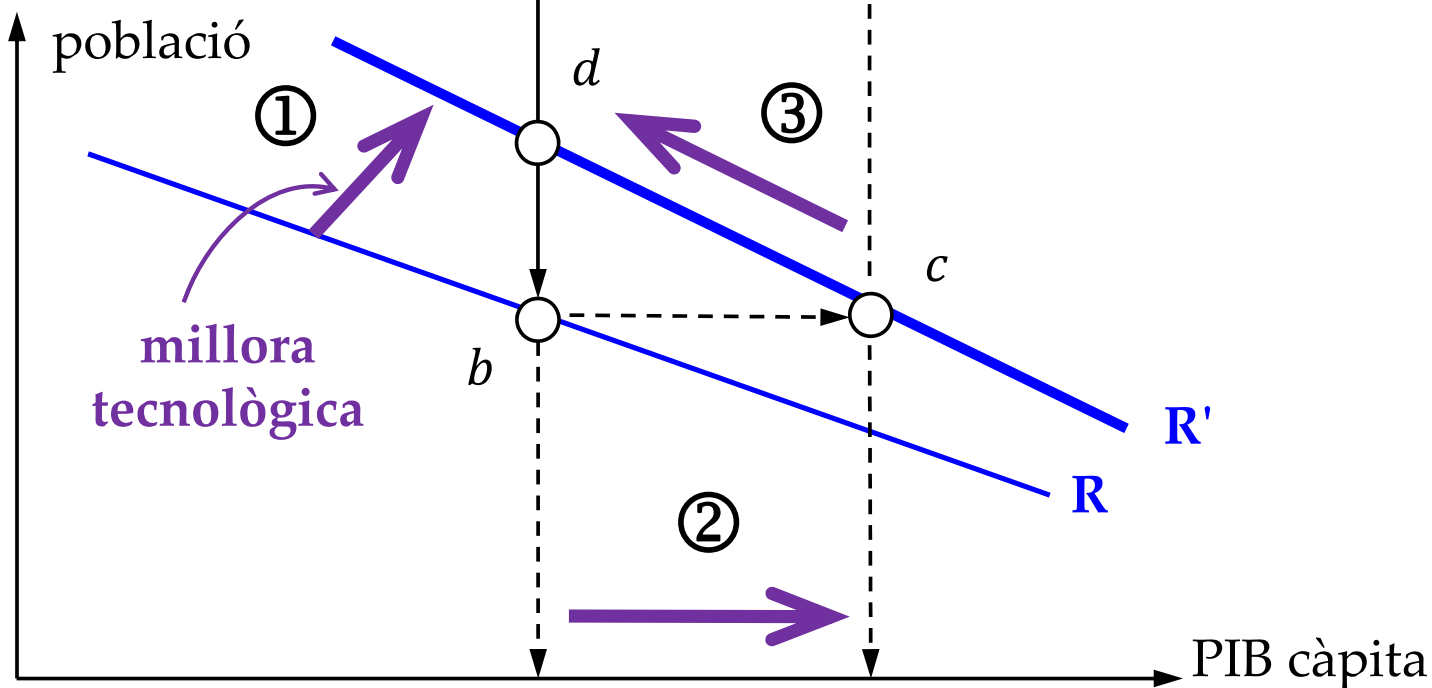
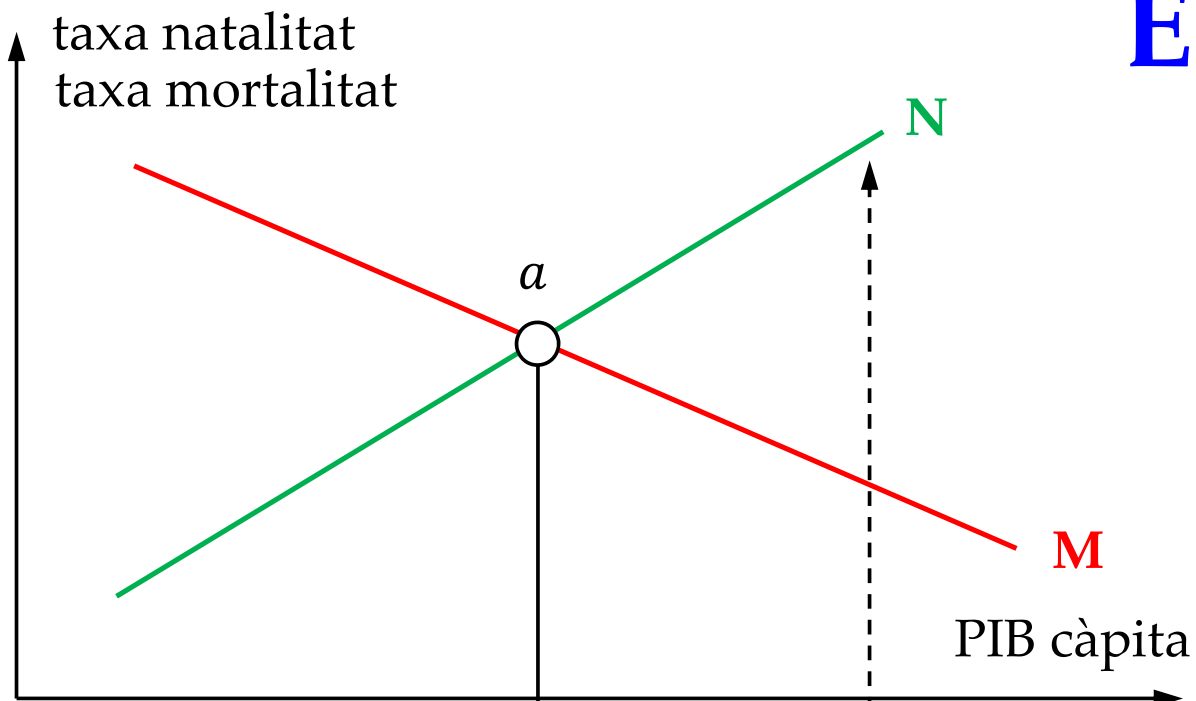


Gregory Clark (2007):
A farewell to alms:
A brief economic history
of the world, p. 22

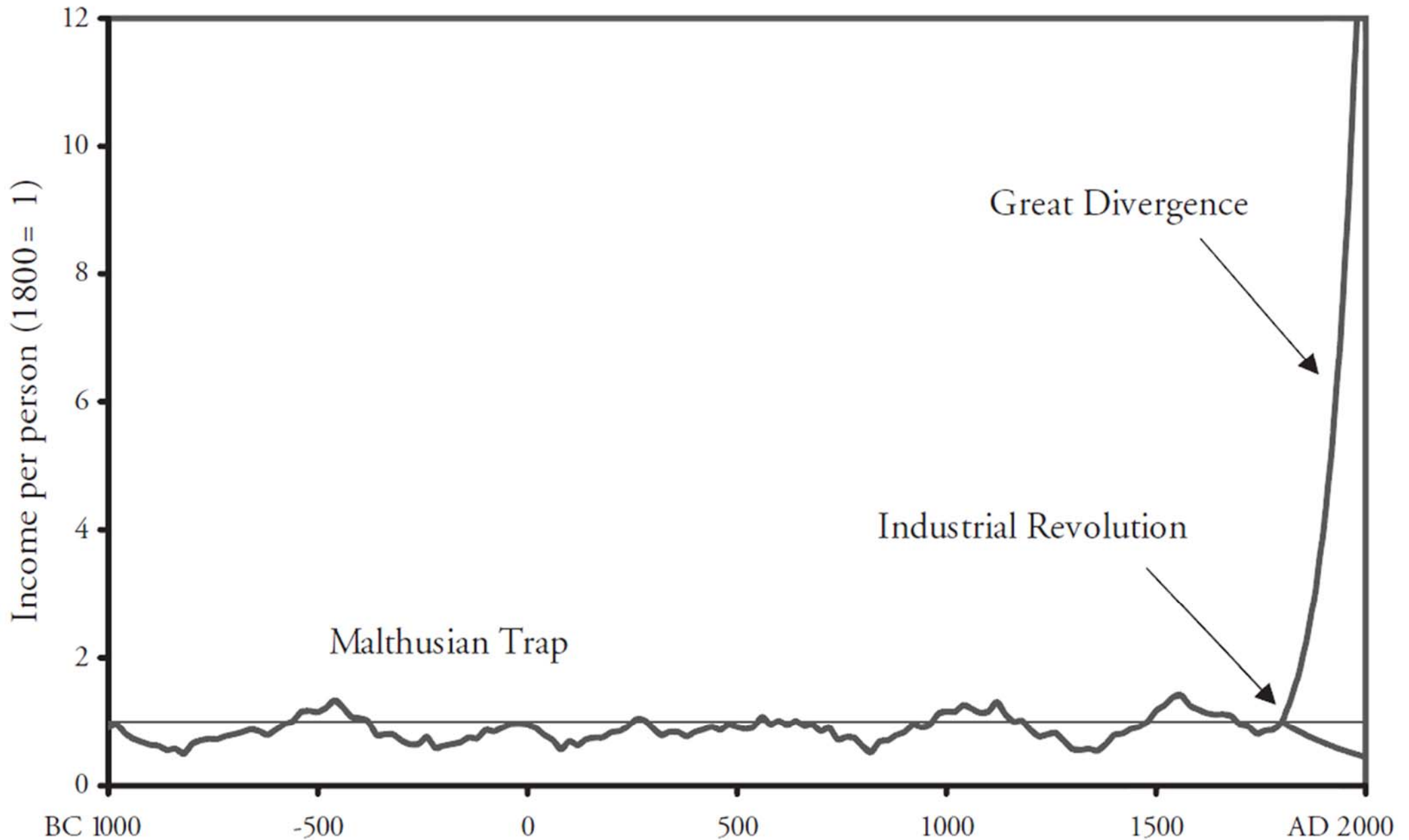


El mecanisme malthusià

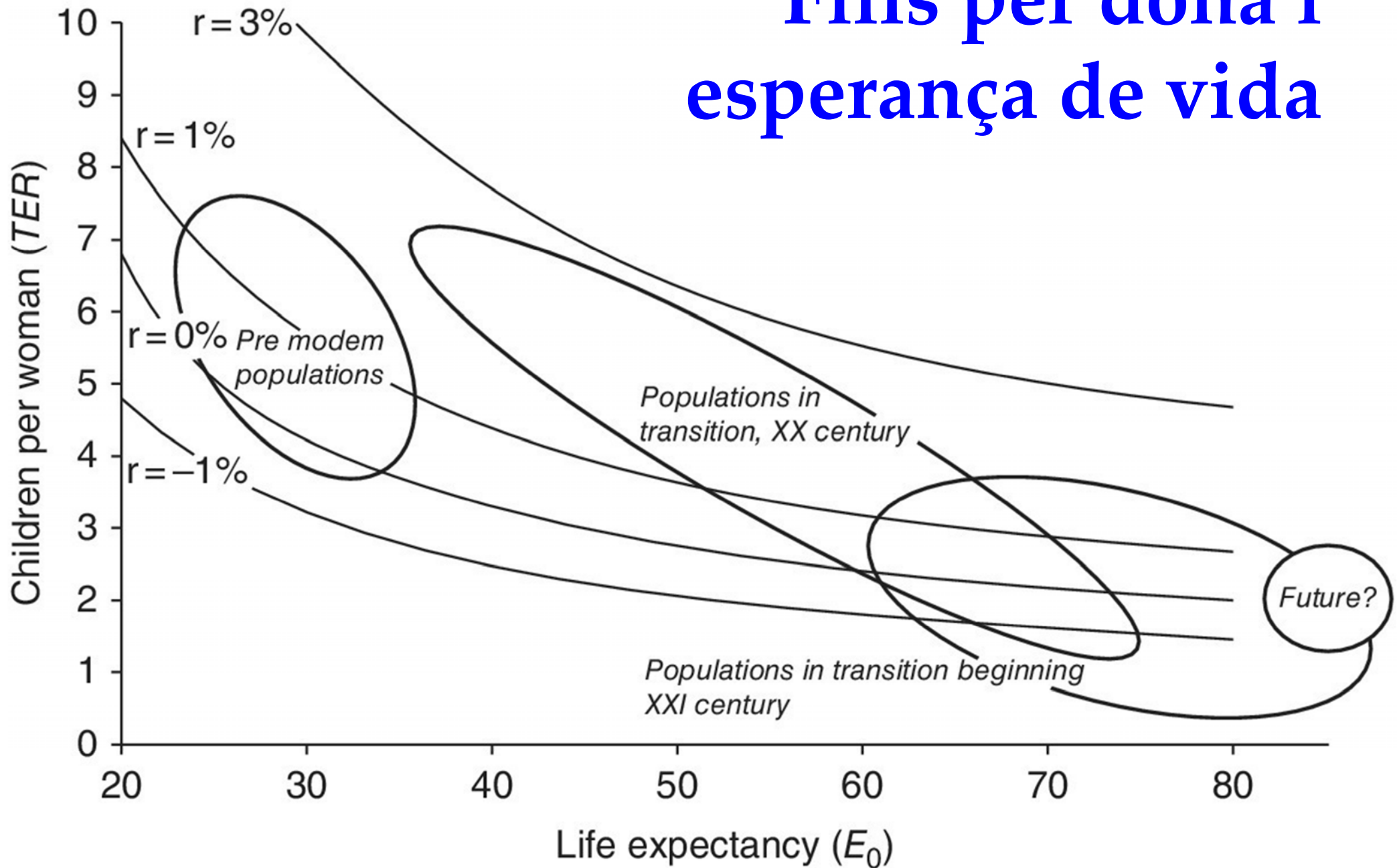
Gregory Clark (2007):
*A farewell to alms:
A brief economic history
of the world, p. 22*



El mite malthusià?

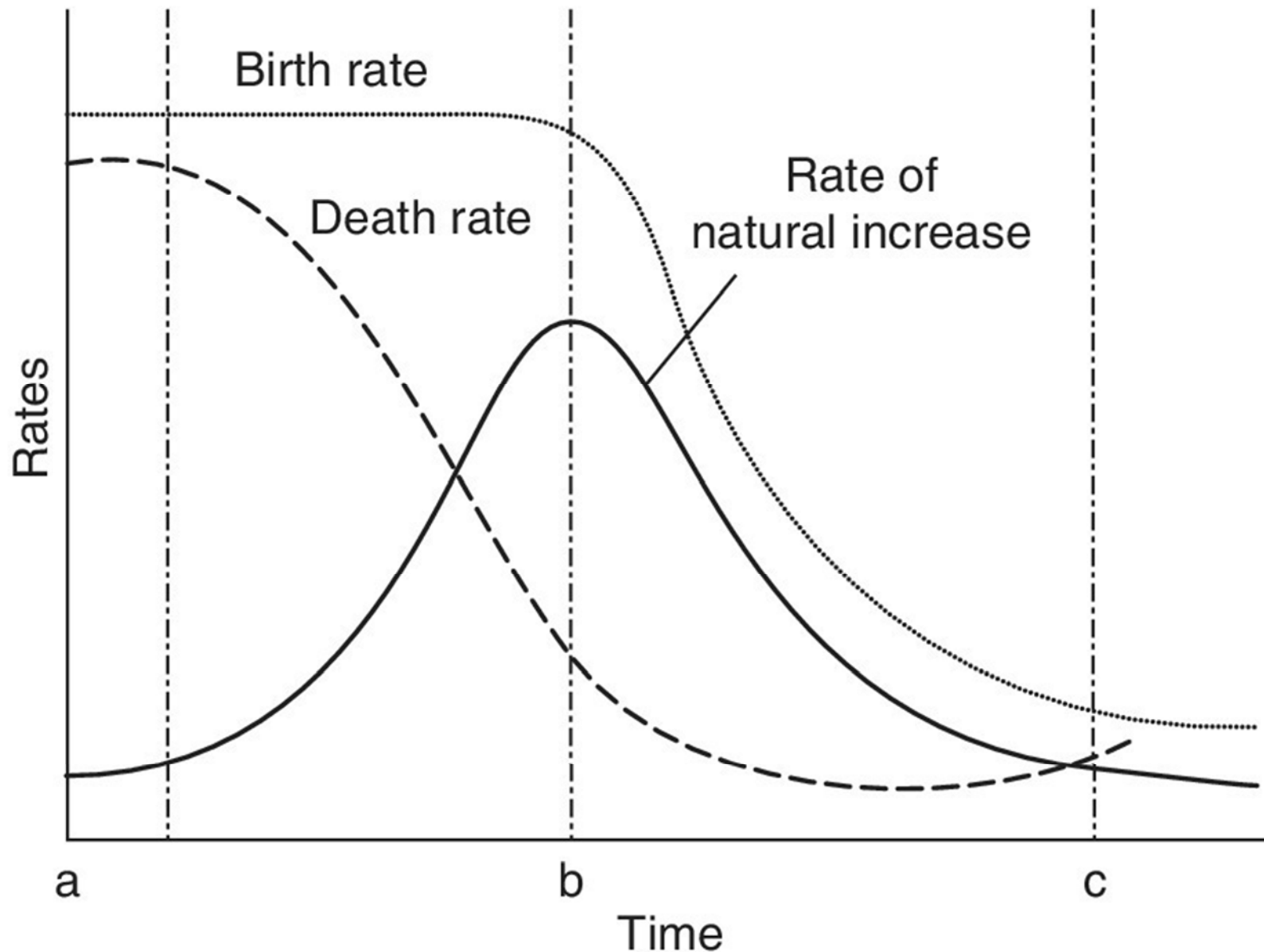


Fills per dona i esperança de vida



Massimo Livi-Bacci (2017): *A concise history of world population*, Fig. 1.8

Model de transició demogràfica

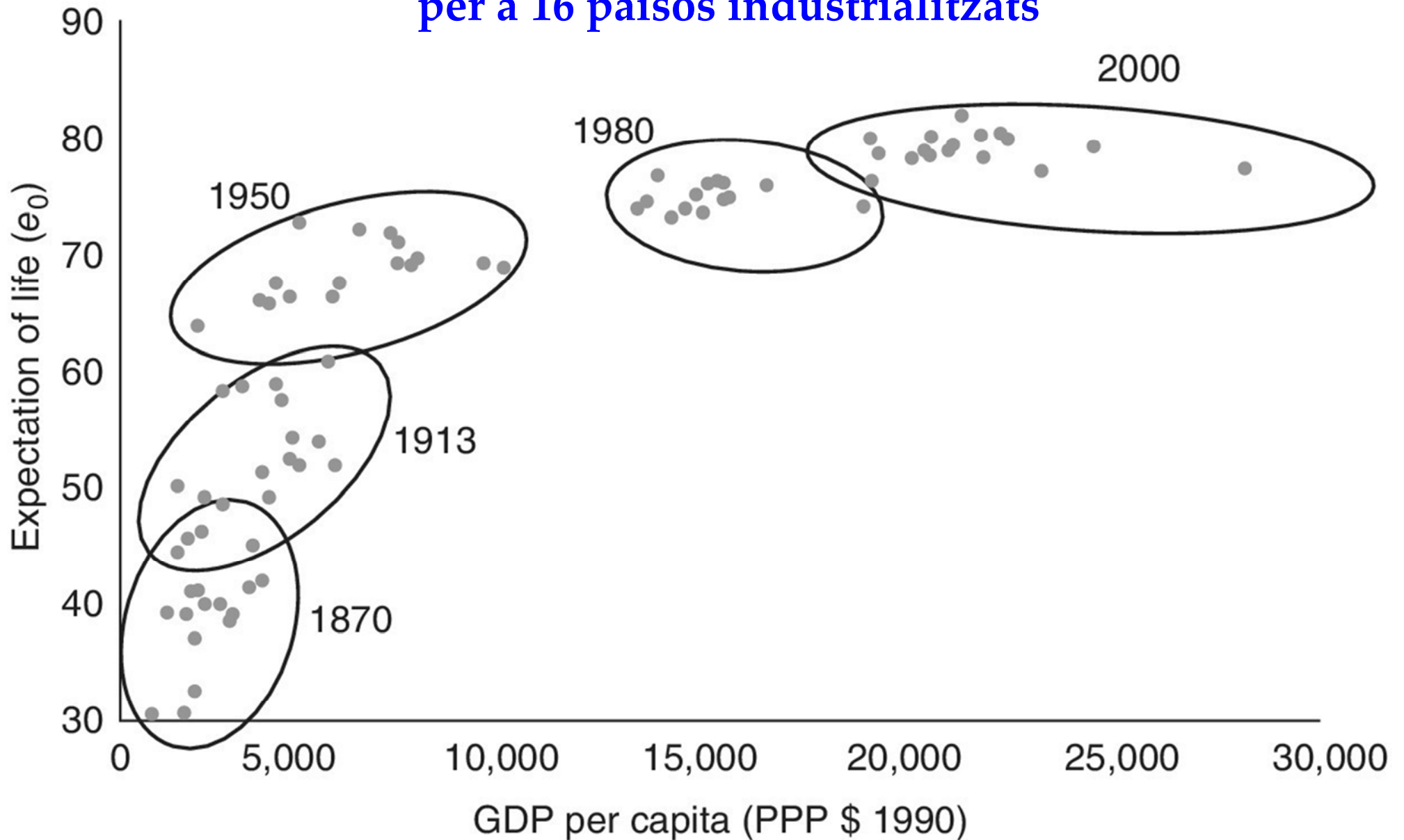


a = beginning of the transition
b = greatest difference between birth and death rate
c = end of the transition

Massimo Livi-Bacci (2017): *A concise history of world population*, Fig. 4.2

PIB per càpita i esperança de vida

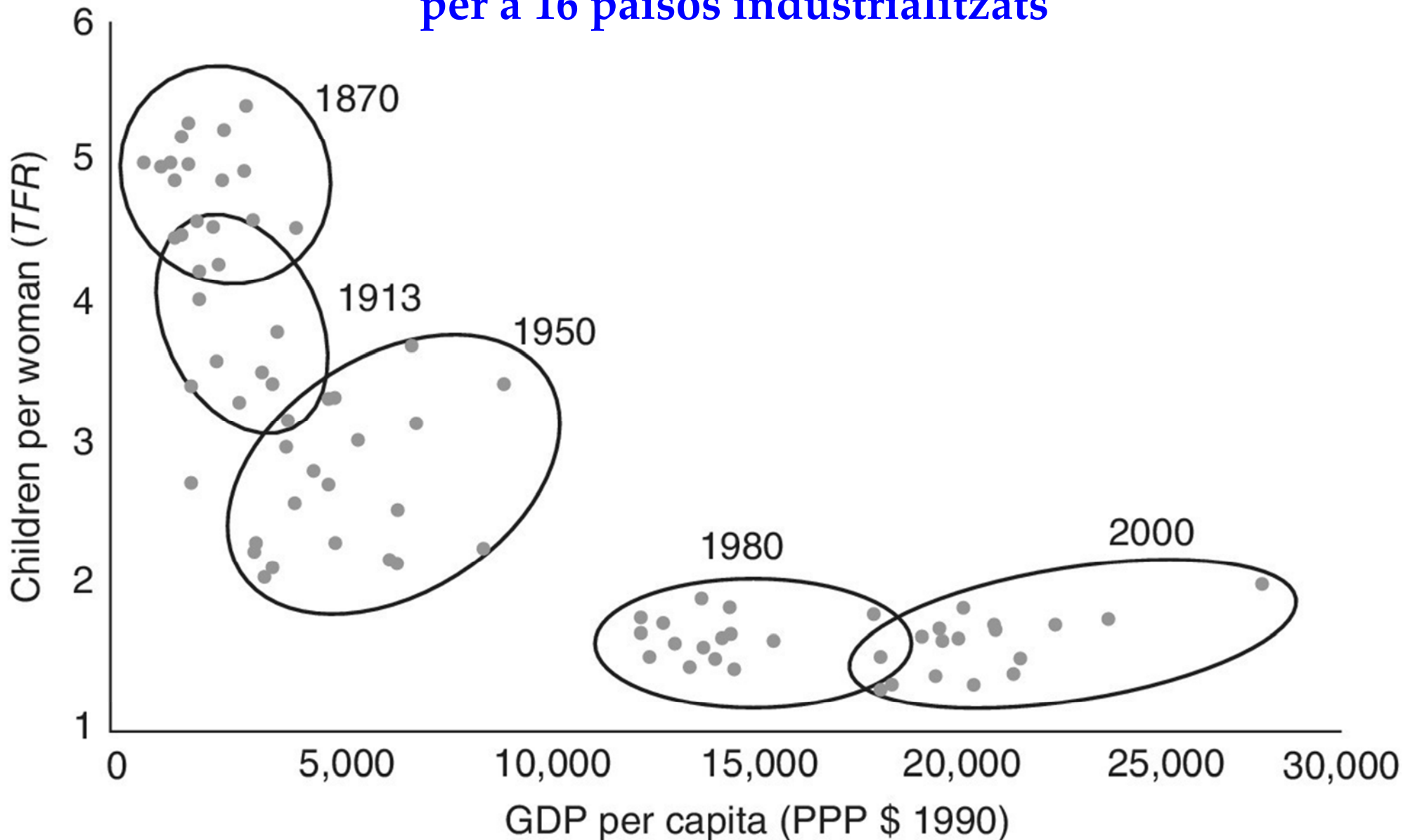
per a 16 països industrialitzats



Massimo Livi-Bacci (2017): *A concise history of world population*, Fig. 4.4

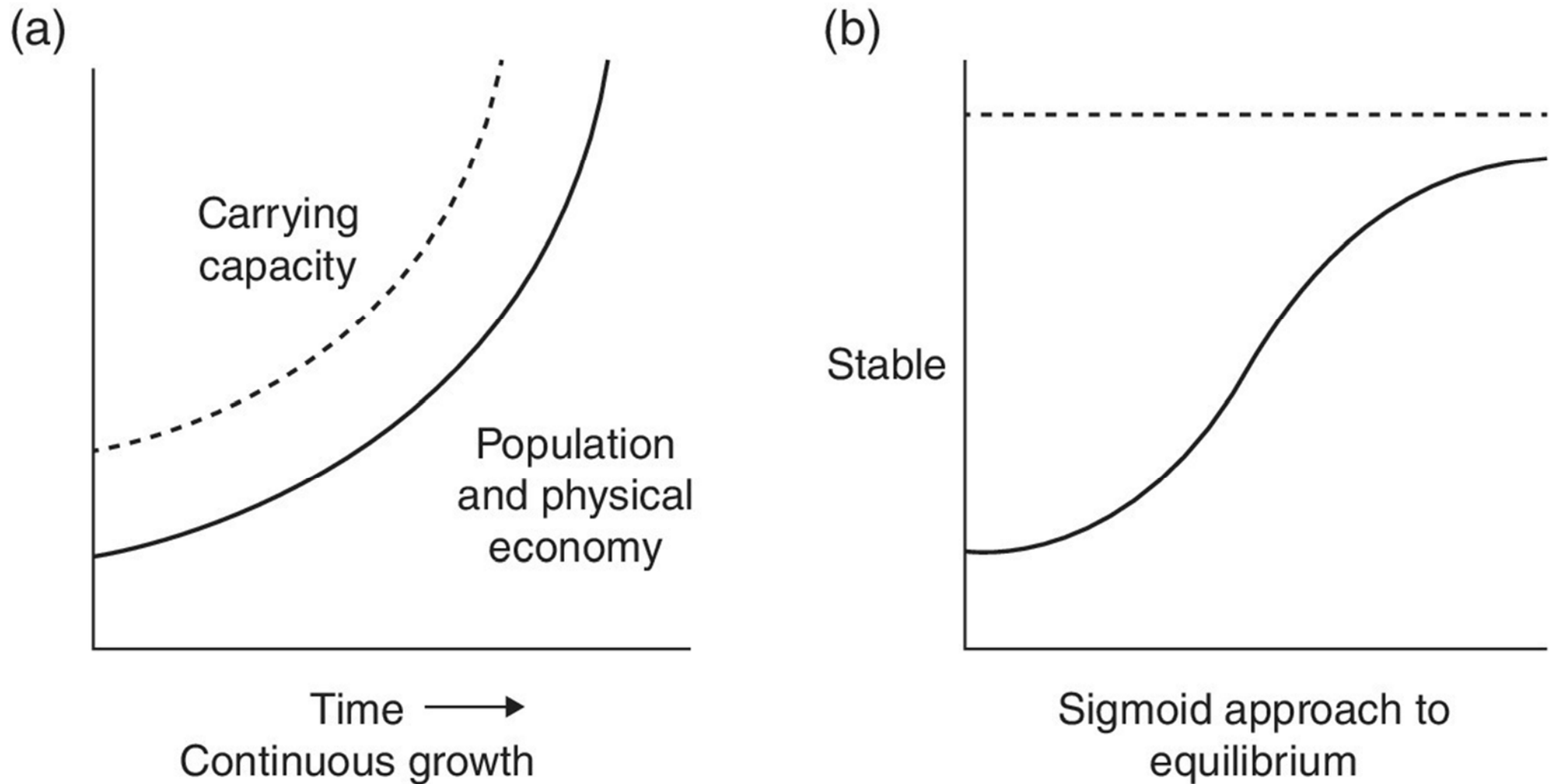
PIB per càpita i fills per dona

per a 16 països industrialitzats



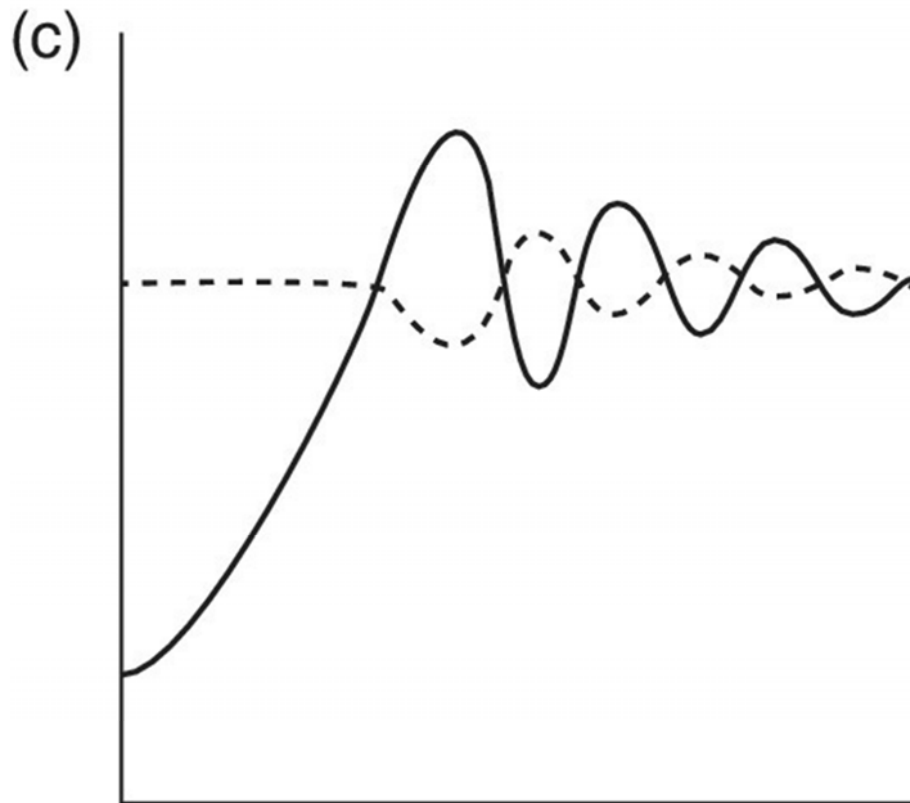
Massimo Livi-Bacci (2017): *A concise history of world population*, Fig. 4.8

Assolint la capacitat de càrrega

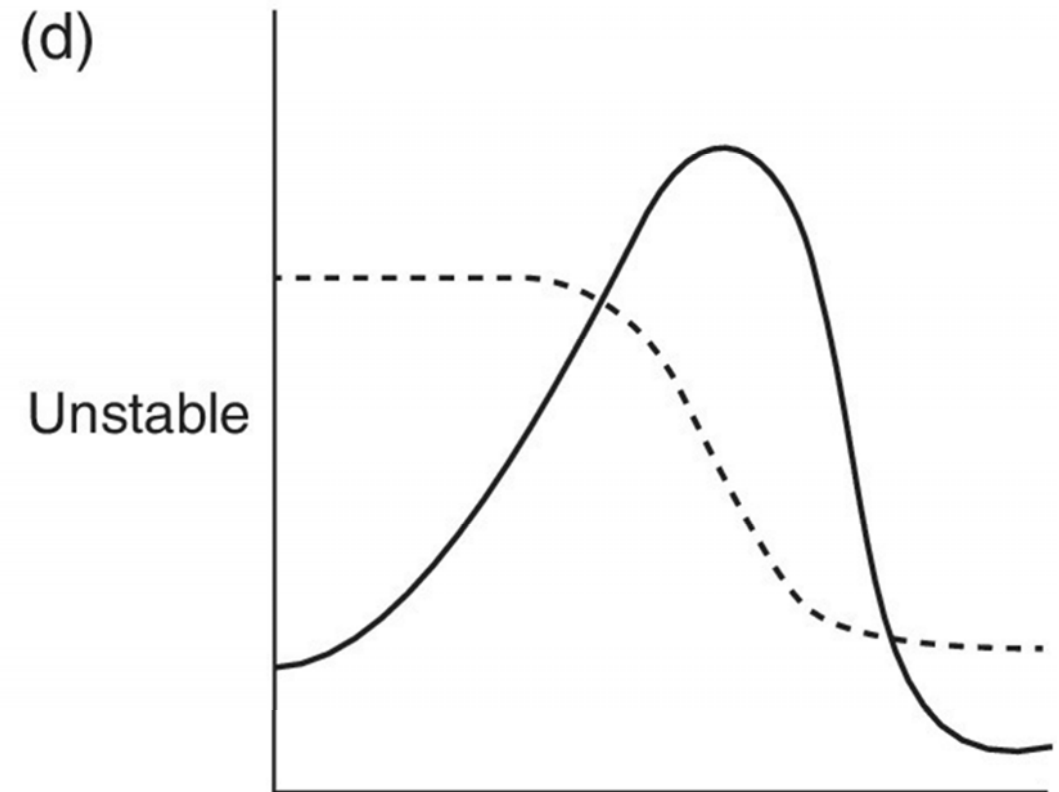


Massimo Livi-Bacci (2017): *A concise history of world population*, Fig. 6.3

Assolint la capacitat de càrrega



Overshoot and oscillation



Overshoot and collapse

Massimo Livi-Bacci (2017): *A concise history of world population*, Fig. 6.3