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Best practice in life expectancy gender gaps: a moving concept

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What is the best-practice for life expectancy gender gap?

- The smallest gap ?
- The gap corresponding to the biological differences between females and males ?
- The gap corresponding to the best health behaviours for both sexes ?
- Does it change with the level of life expectancy ?
- What is it possible to learn from HMD data, using the concept of best practice in life expectancy?

I. Best and worst practices in life expectancy

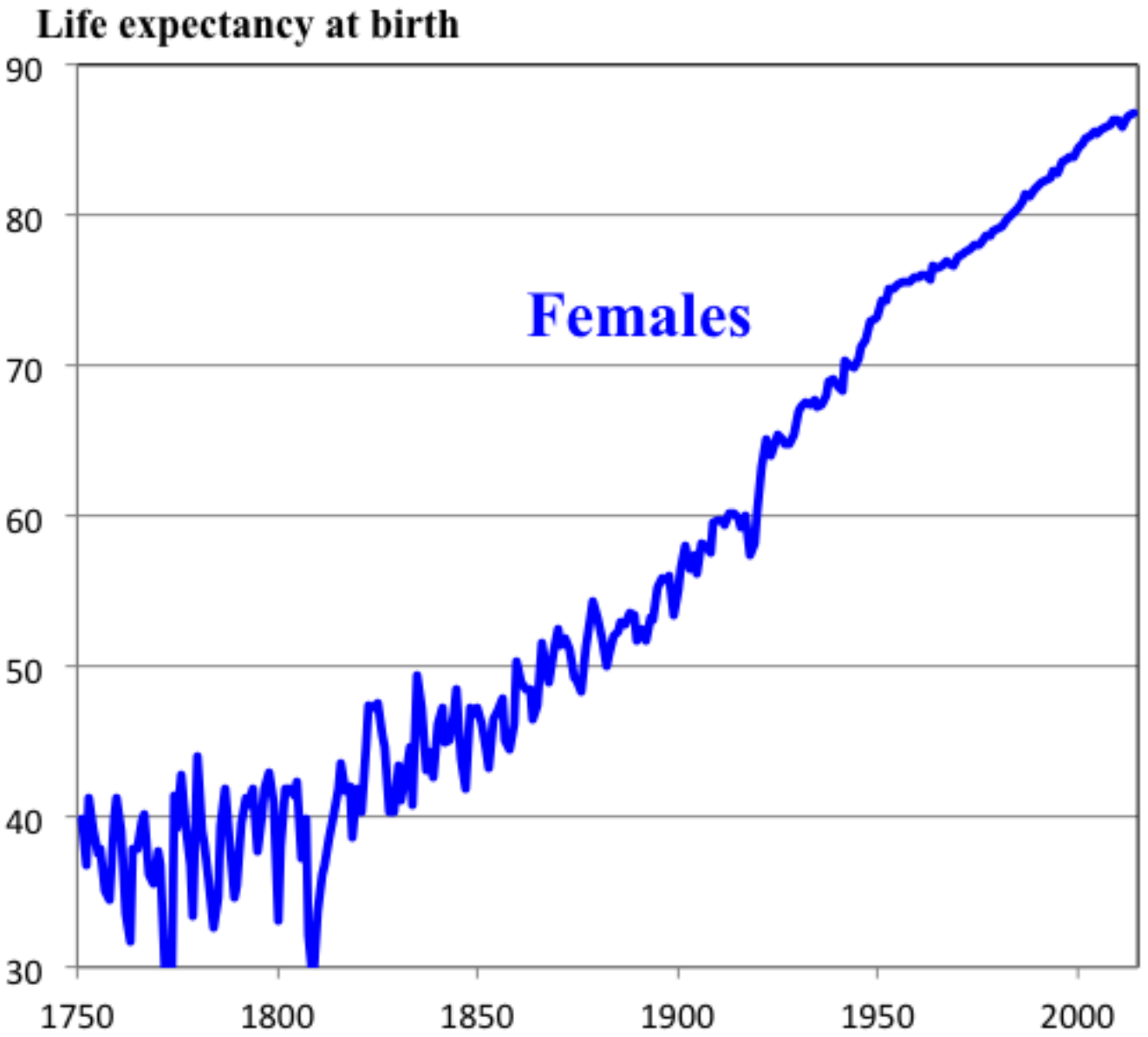
Best-practice in life expectancy

- A seminal paper by Oeppen and Vaupel (2002)
  - Oeppen Jim and Vaupel James W., 2002. – Broken limits to life expectancy, *Science*, vol. 296, n° 10, p. 1029-1031
- Revisited by Vallin and Meslé (2009)
  - Vallin Jacques, Meslé France, 2009. – The Segmented Trend Line of Highest Life Expectancies, *Population and Development Review,* 35(1), p. 159-187.

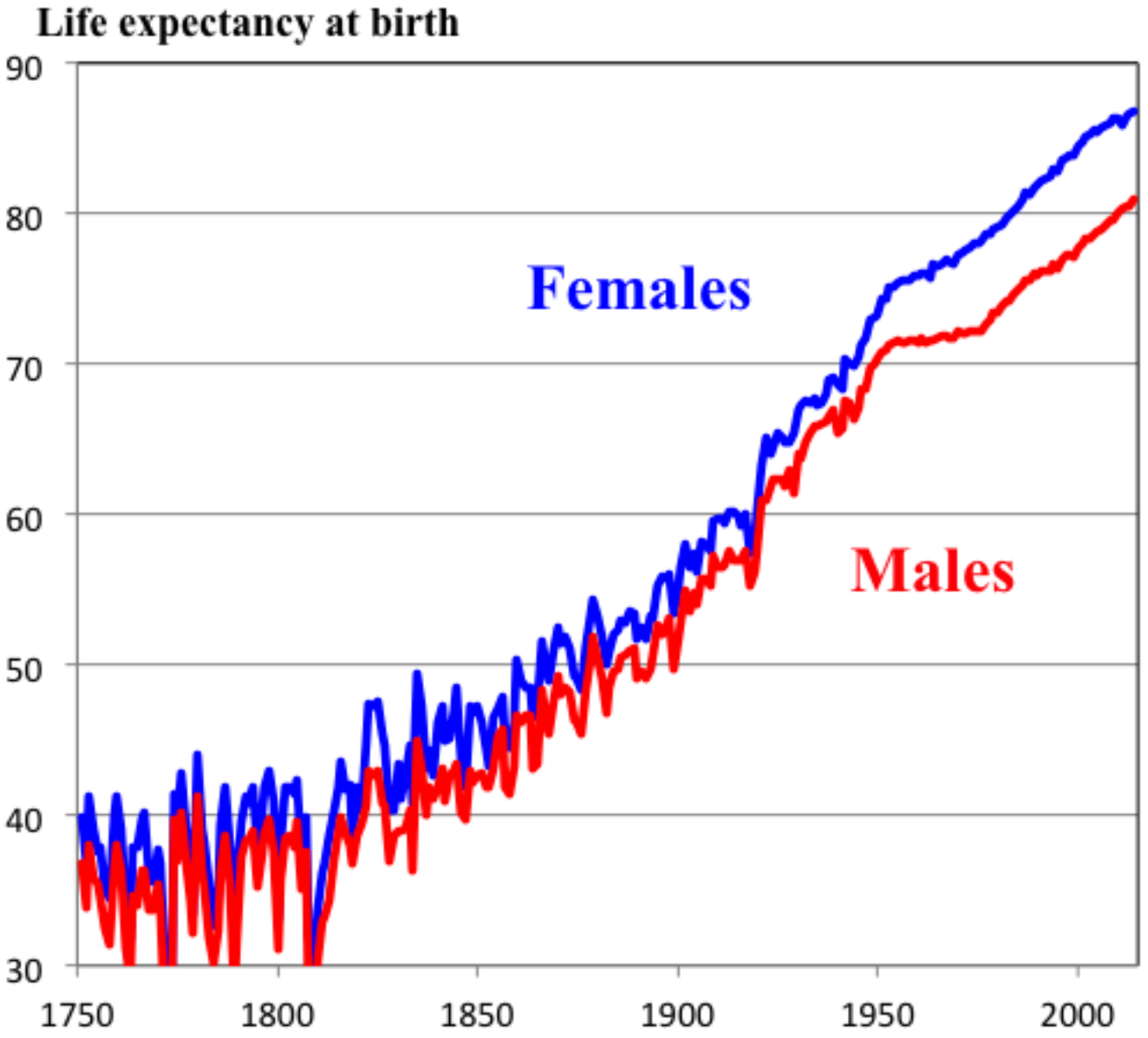
From a straight to a broken line, but a useful concept to follow and forecast mortality trends

First looking at females

Best female life expectancy in HMD



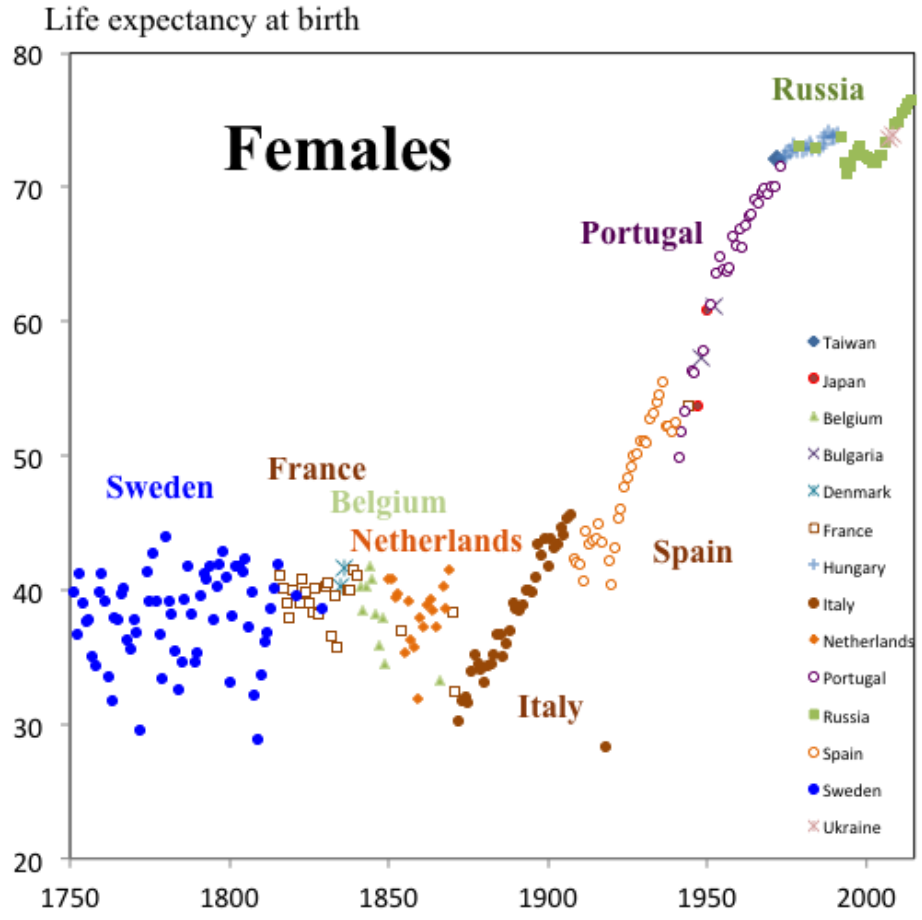
What about males ?

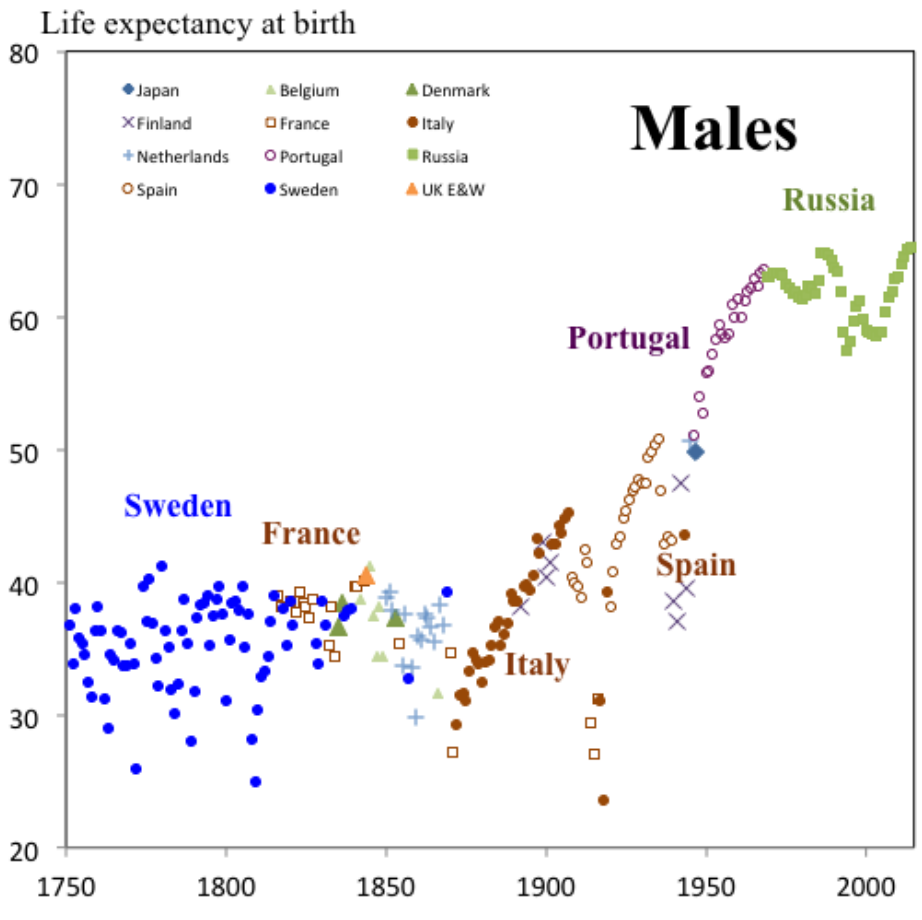


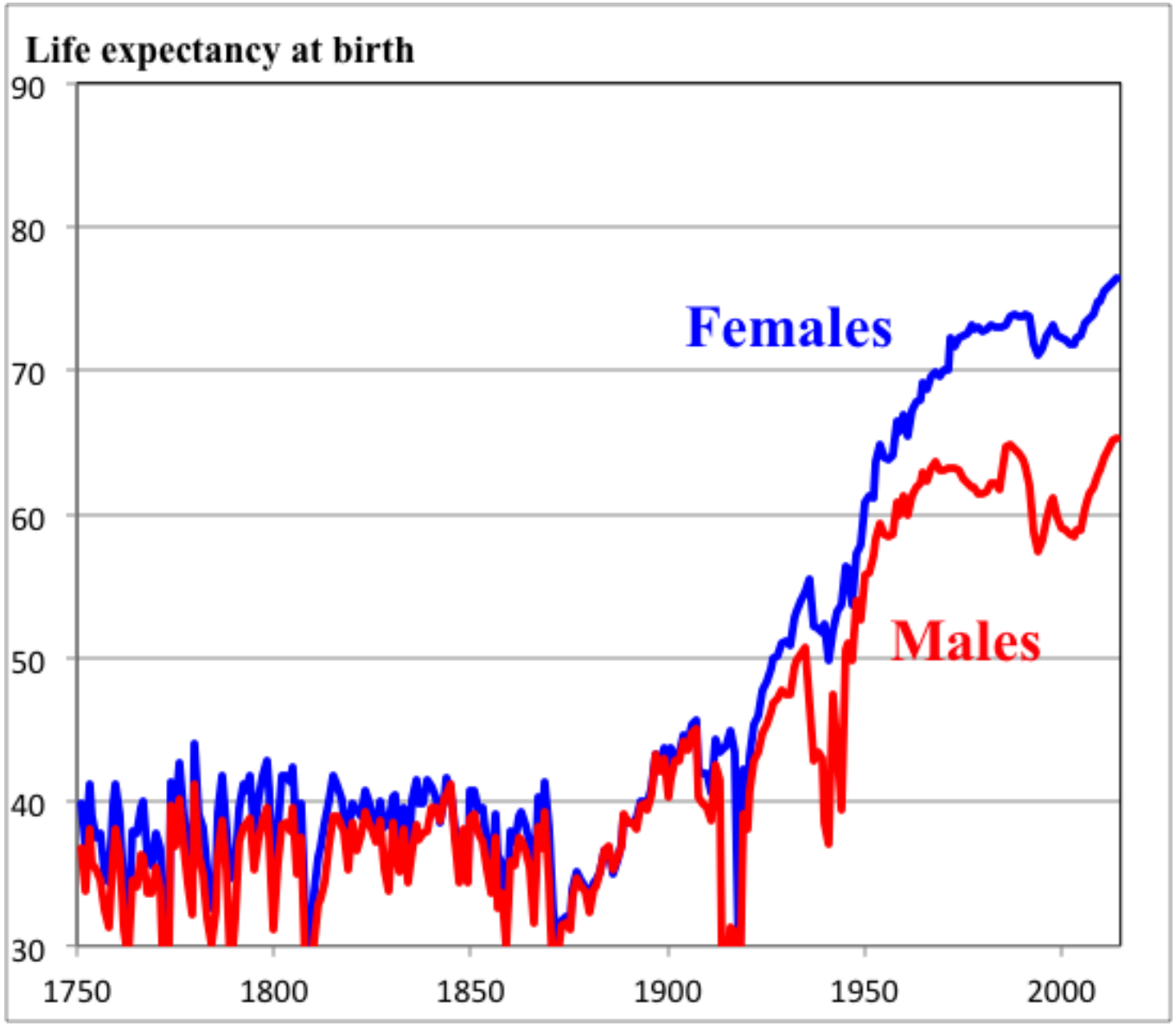
Worst practice: an operational concept?

- Much more difficult because data are not available for all countries of the world
- And availability is very much correlated with life expectancy levels
- Looking at HMD data

Worst performers in HMD






Life expectancy at birth
90
80
70
60
50
40
30
1750
1800
1850
1900
1950
2000
Females
Males

Best and worst practice in gender gap ?

Two different measures:

- the largest and smallest gaps between females and males within a country *i*:

  $max\ (e0^F(i) - e0^M(i))$

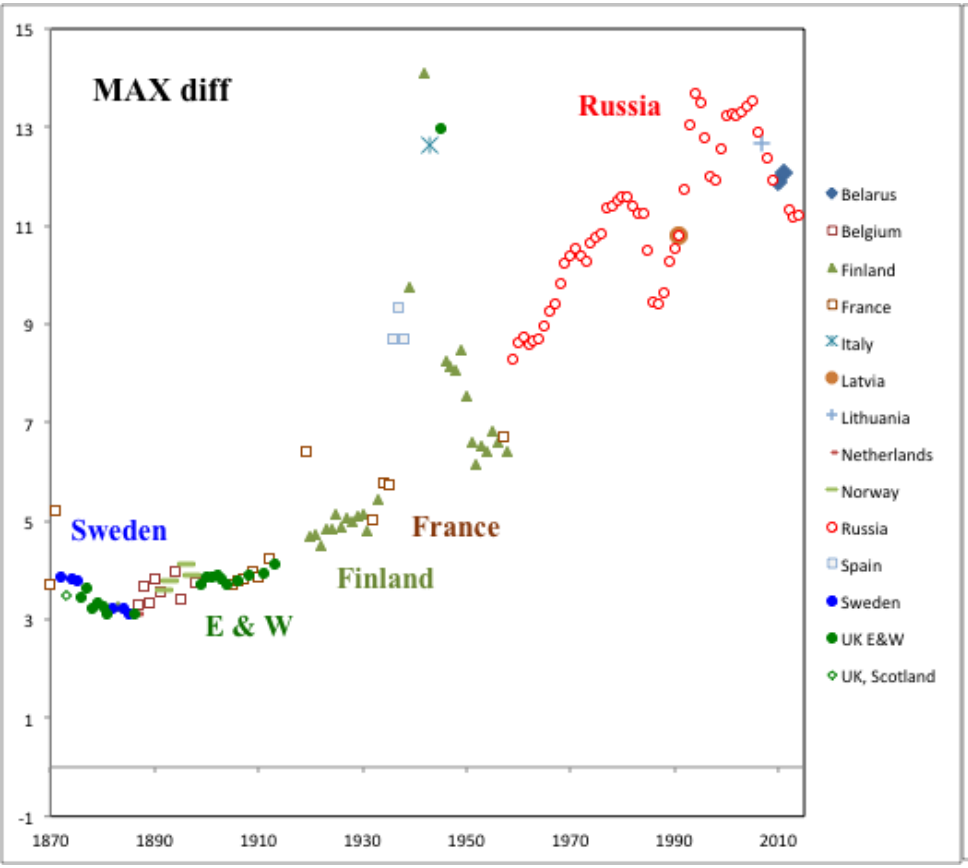
  $min\ (e0^F(i) - e0^M(i))$

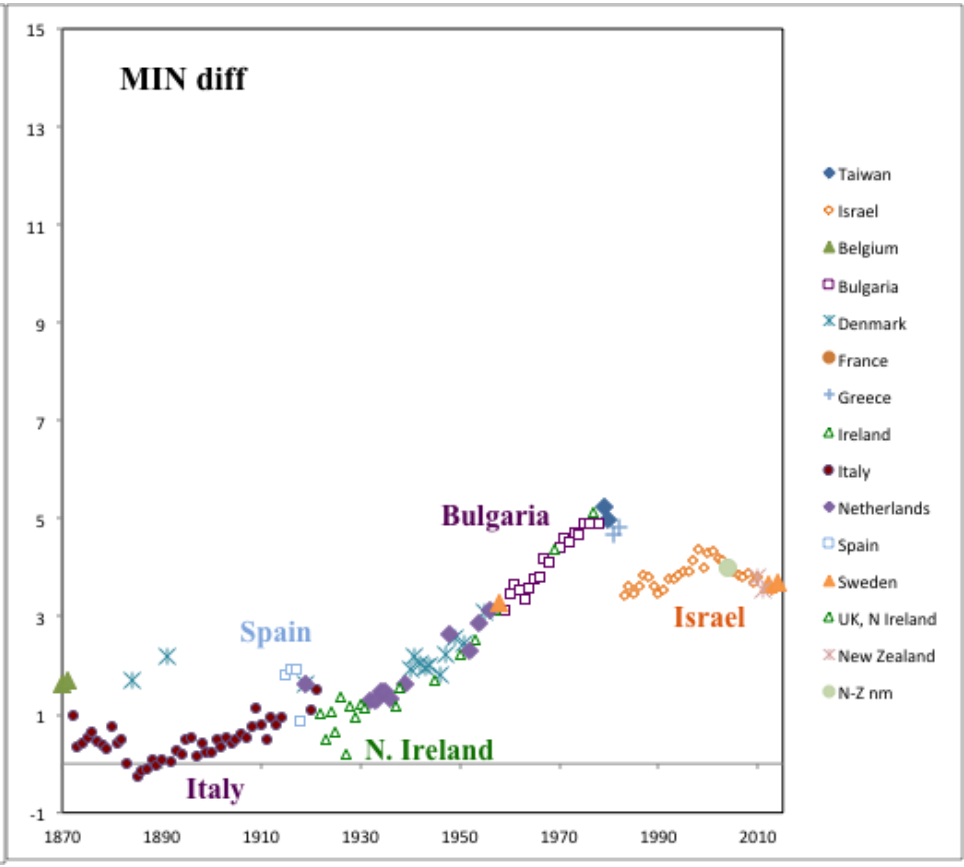
- the differences between female and male maximums and minimums:

  $max\ (e0^F) - max(e0^M)$

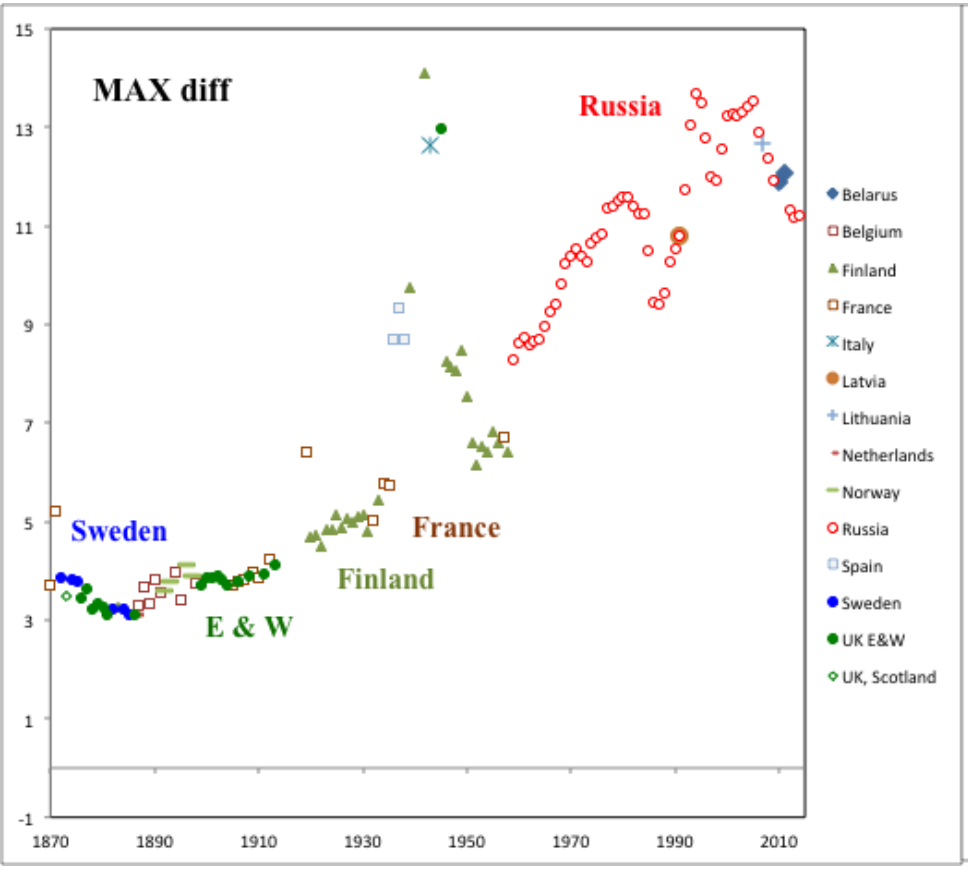
  $min\ (e0^F) - min(e0^M)$

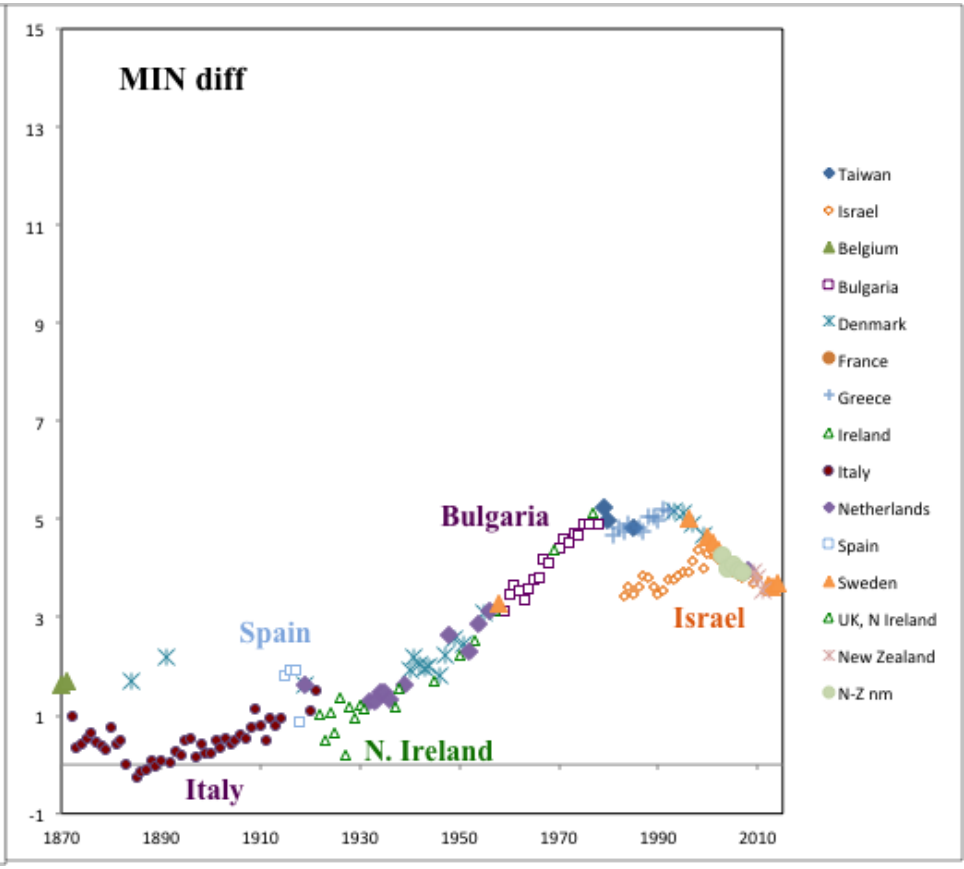
Maximum and minimum gap observed in a country



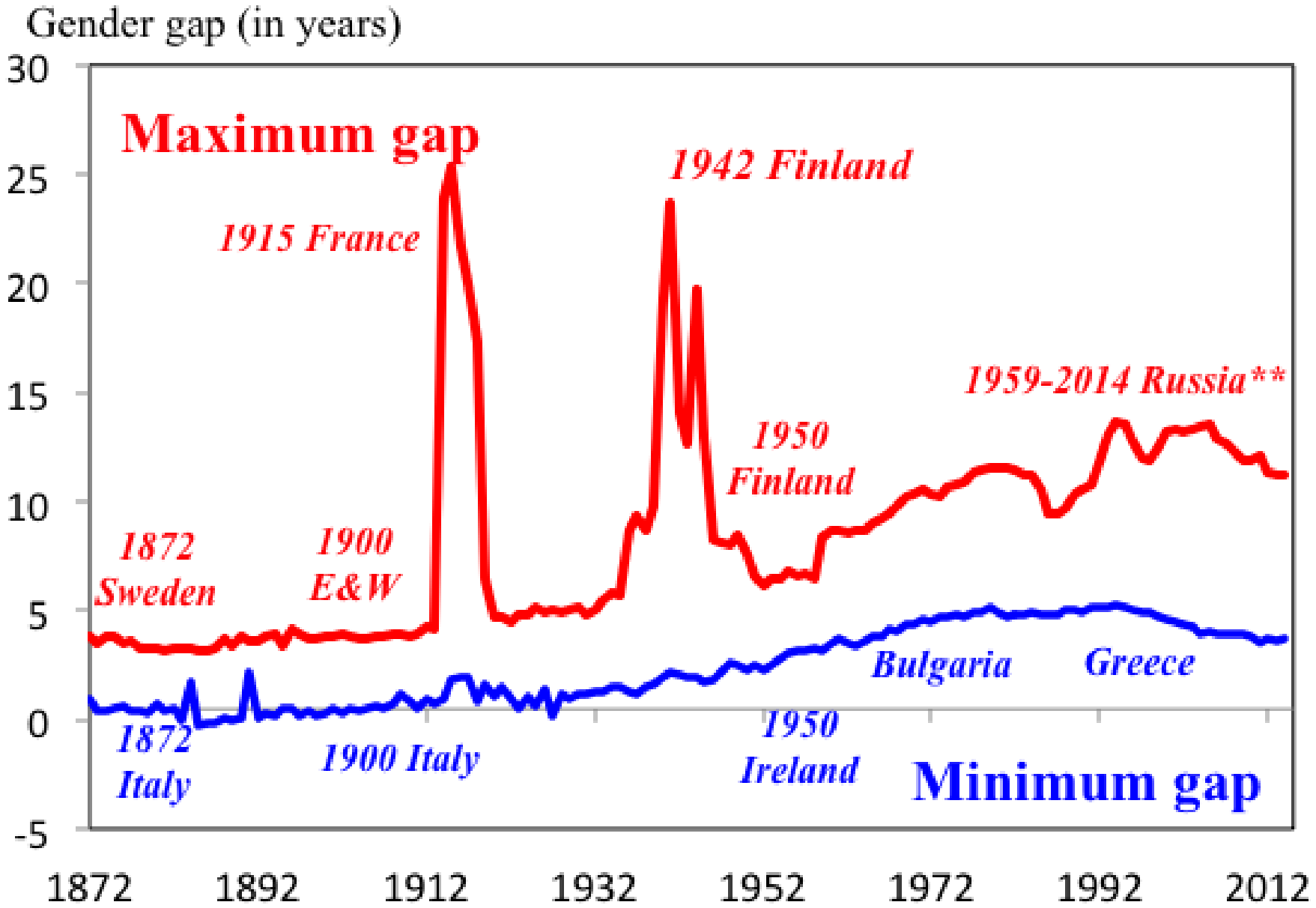


Maximum and minimum gap observed in a country (2)

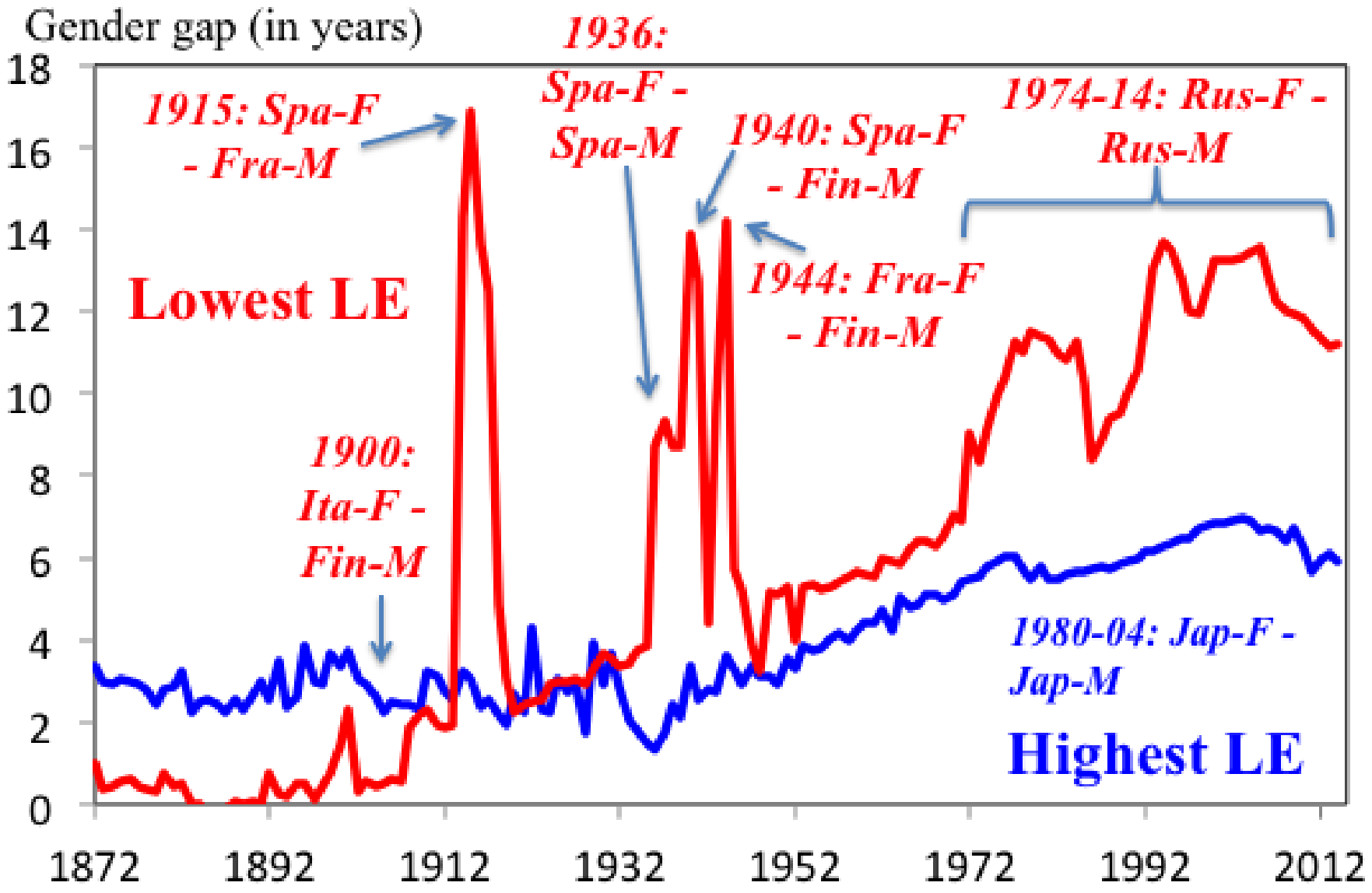




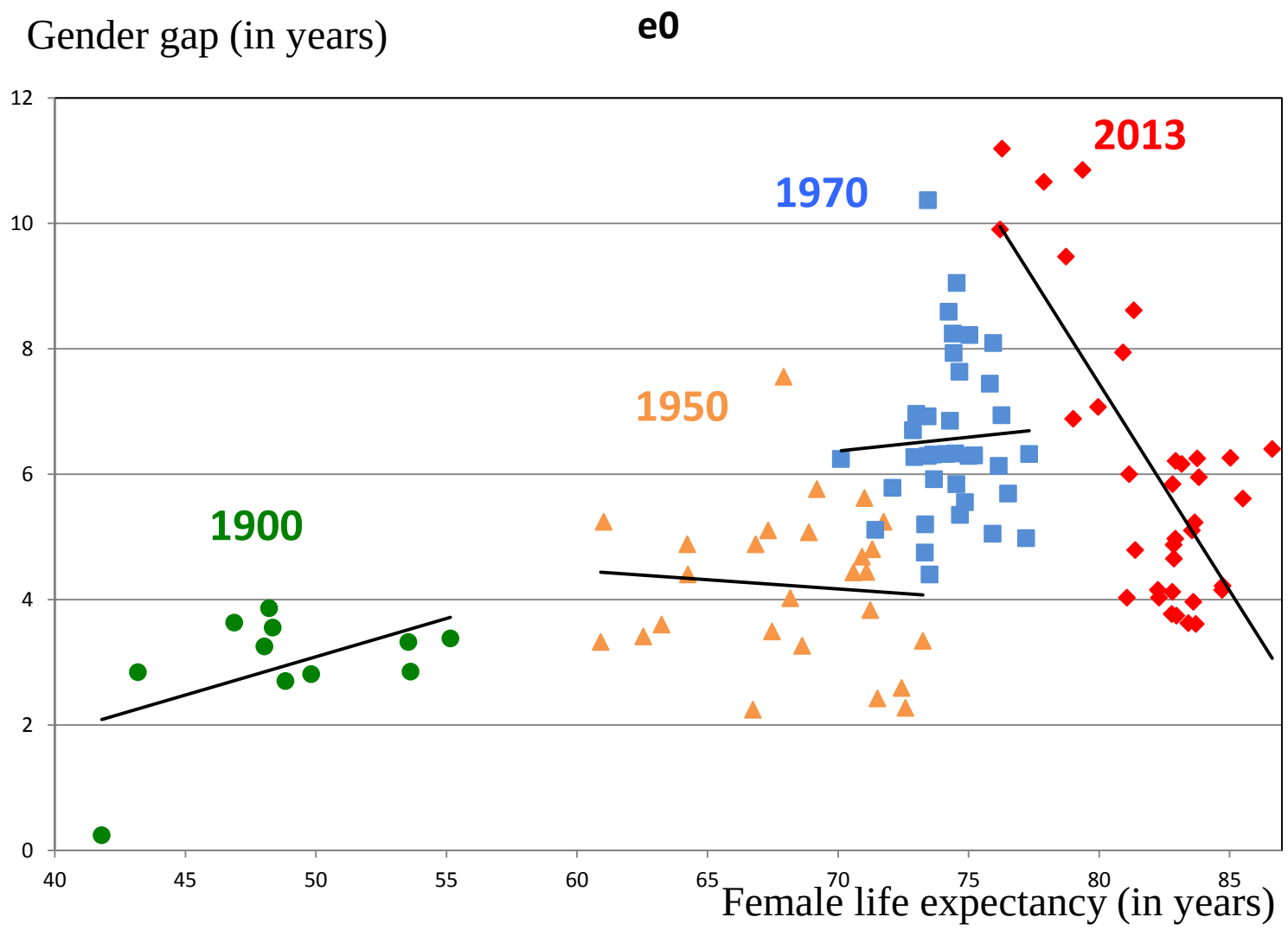
Maximum and minimum gap observed in a country



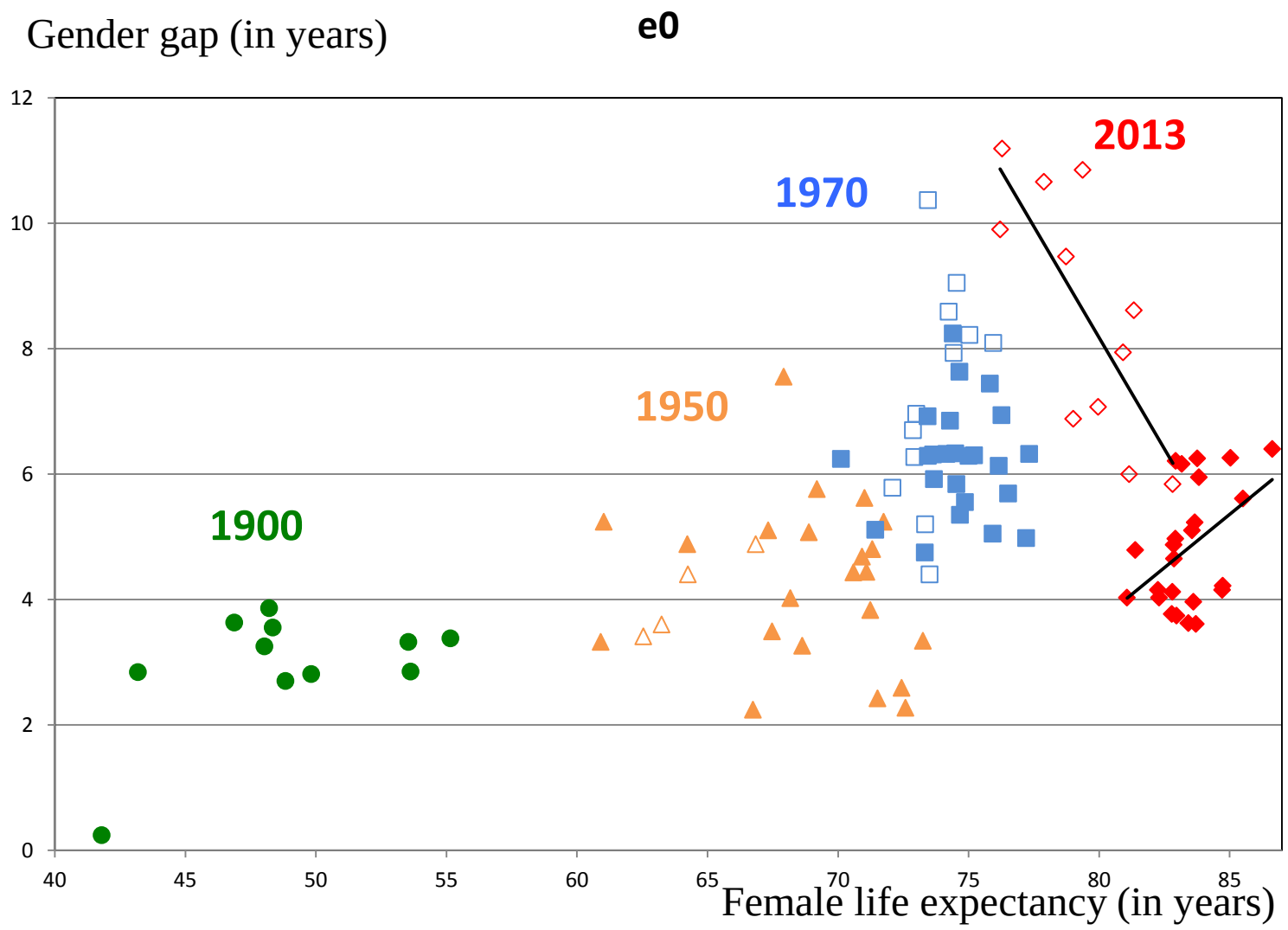
Gender gap between highest LE and lowest LE



Gender gap and female life expectancy level

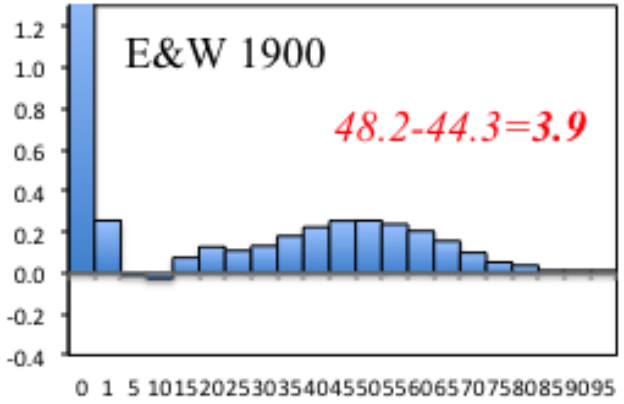


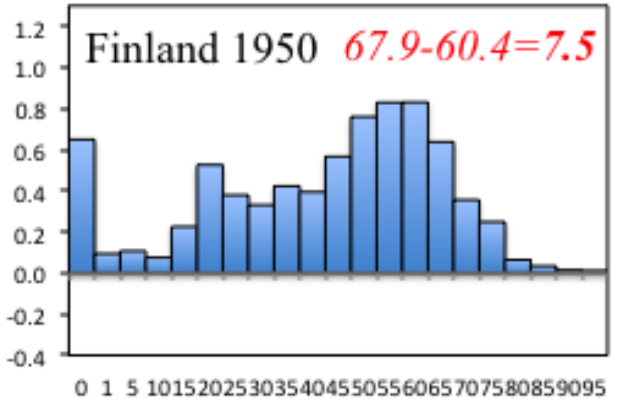
Distinguishing Eastern Europe

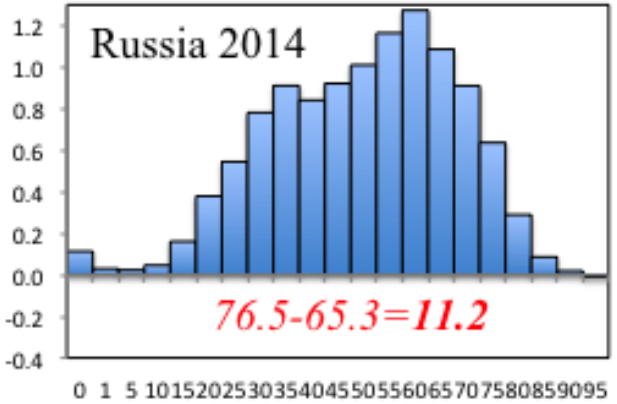


The shift of ages responsible for the gender gap

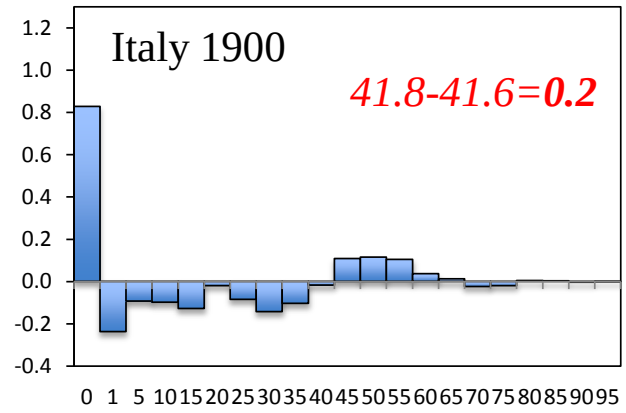
MAXIMUM

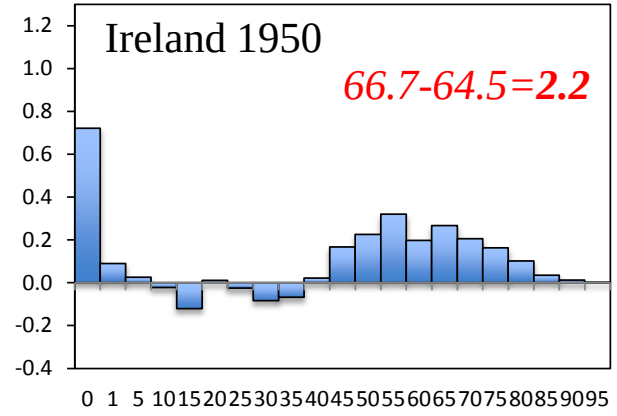


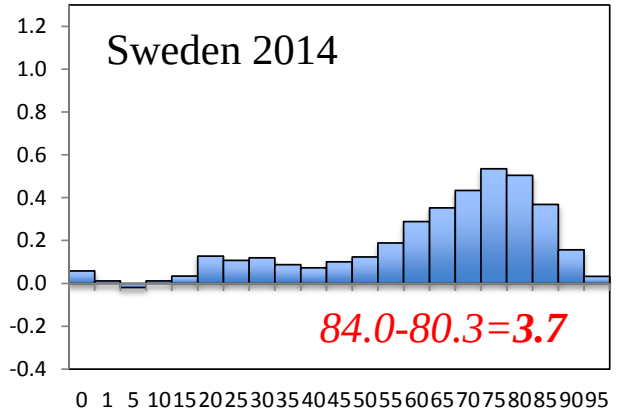




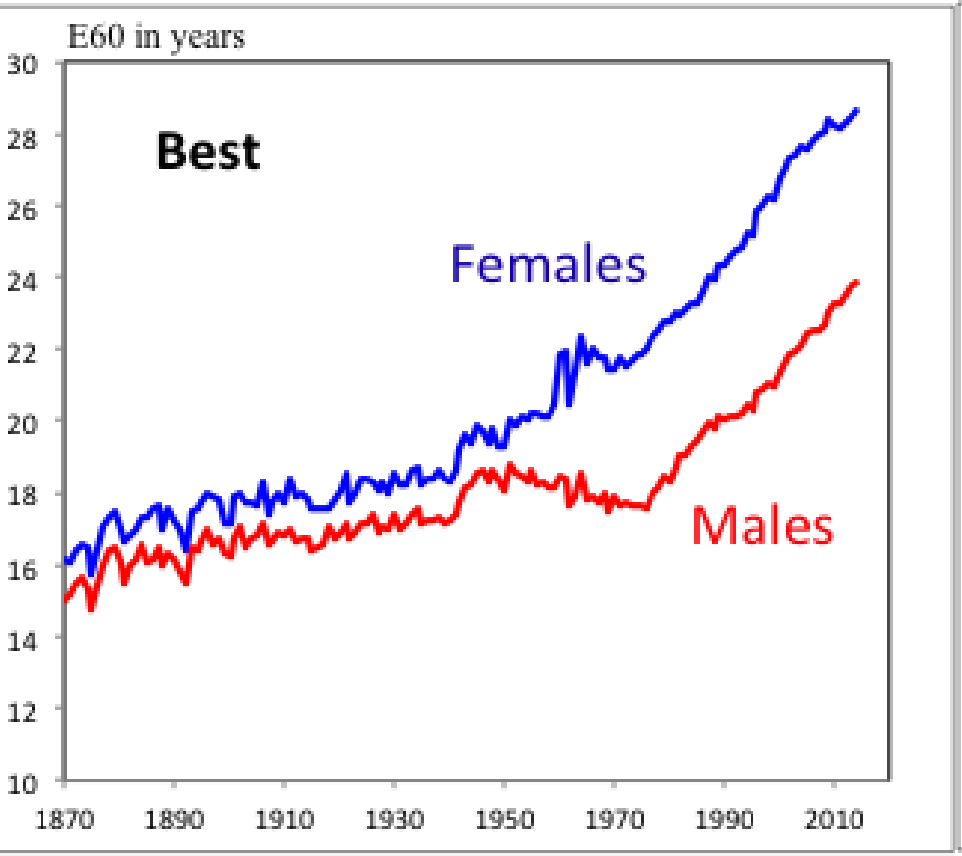
MINIMUM

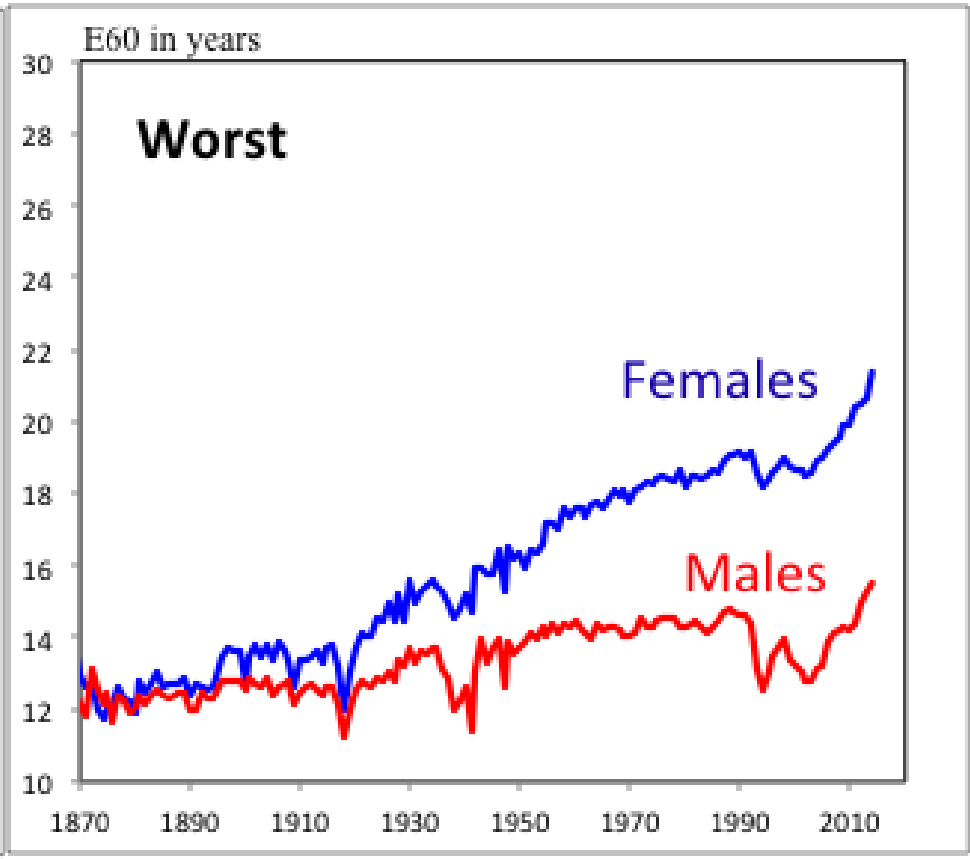






Life expectancy at age 60: Best and Worst

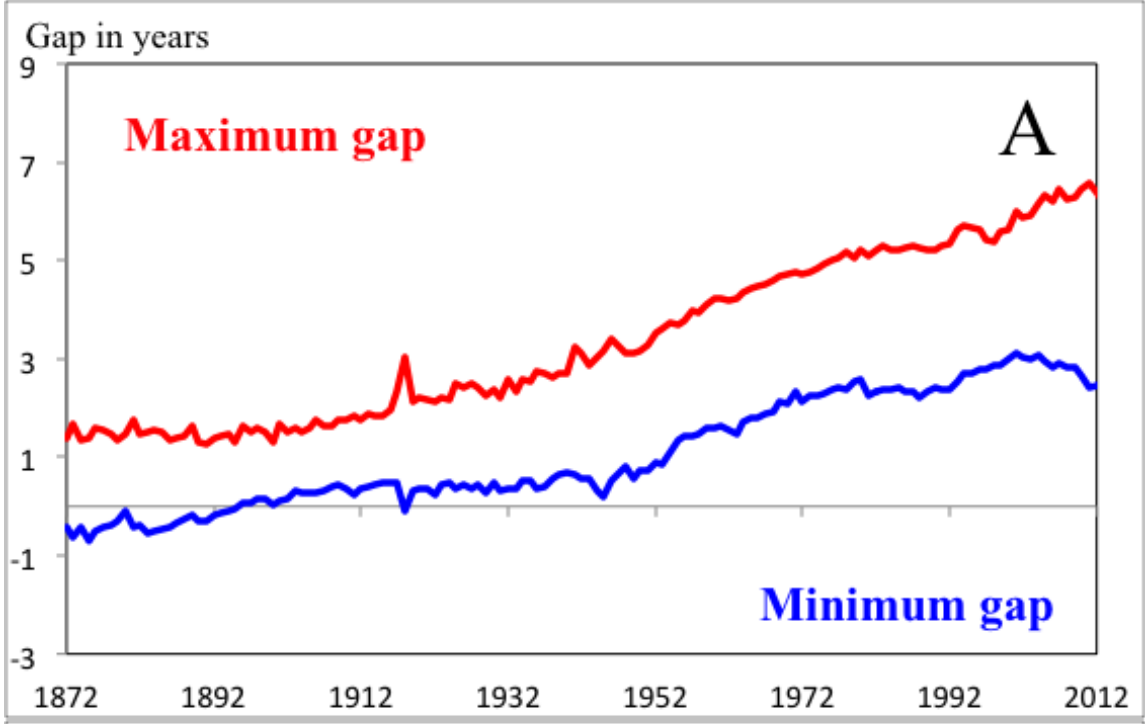


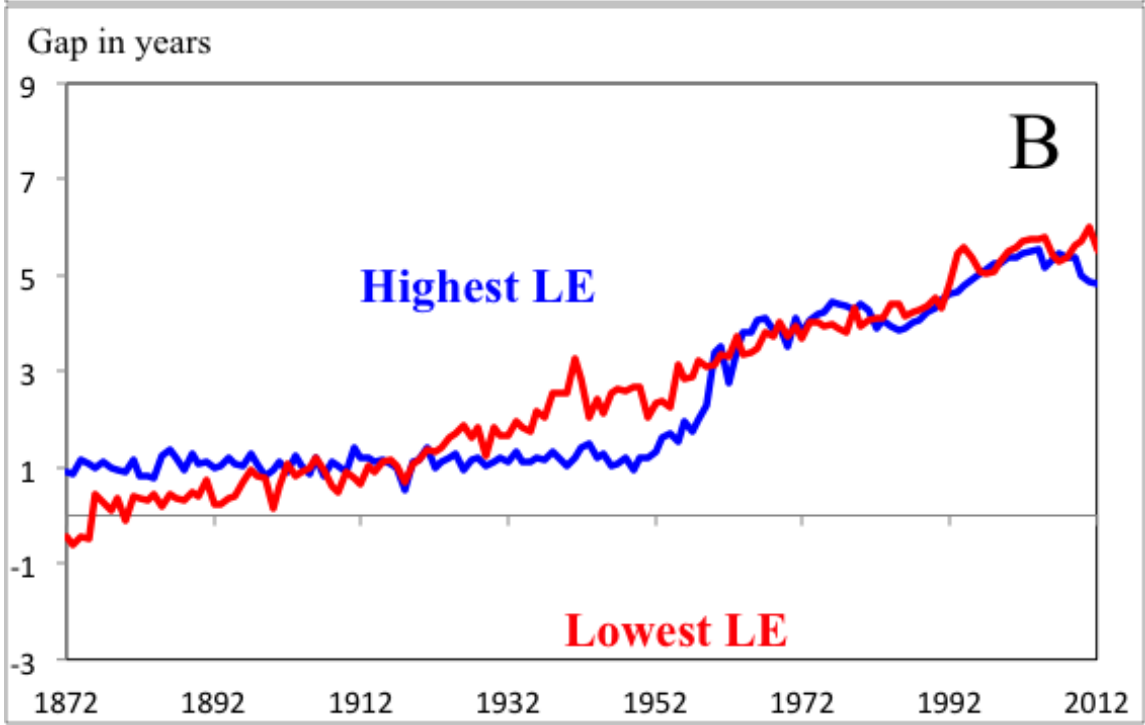


Gender gaps in life expectancy at age 60

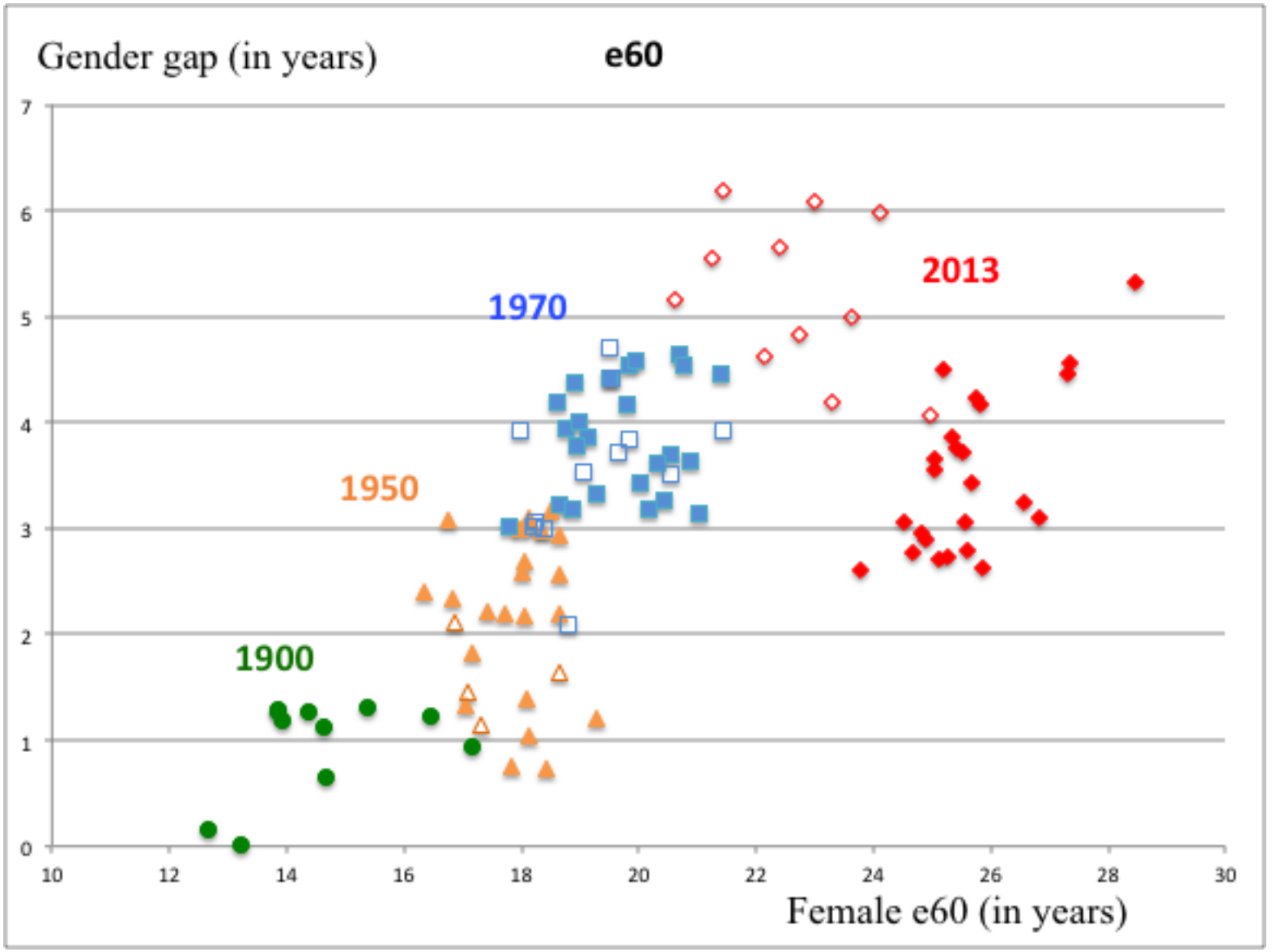
A: within a country

B: between best or worst performers

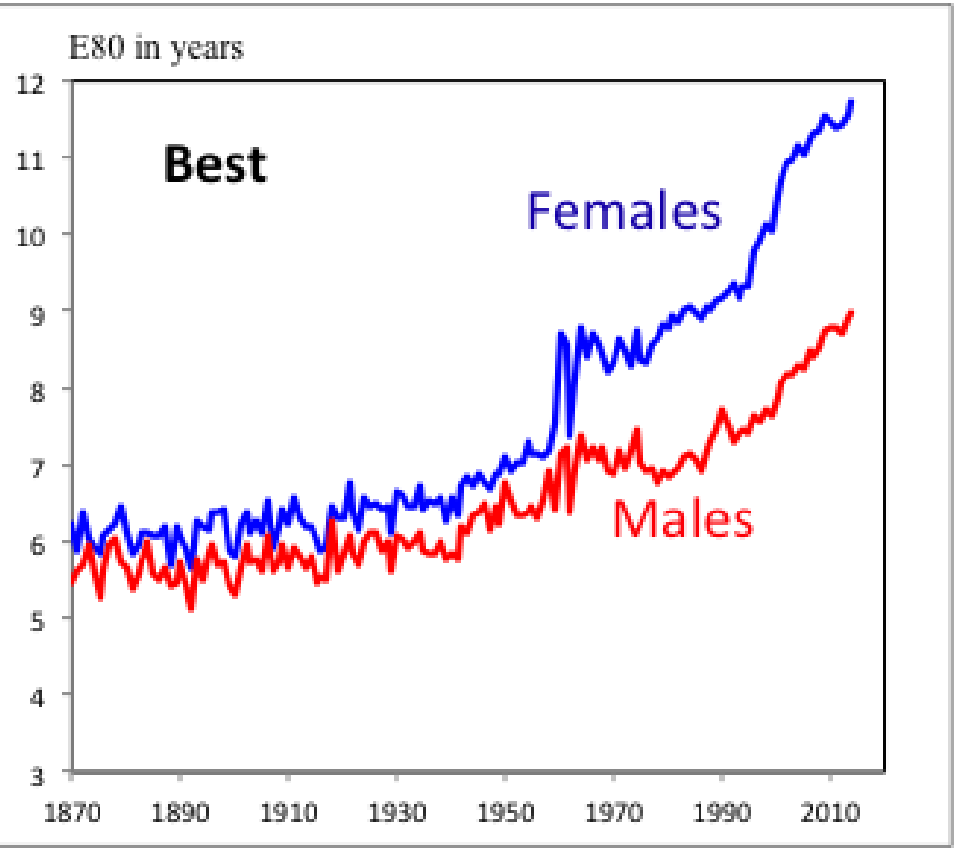


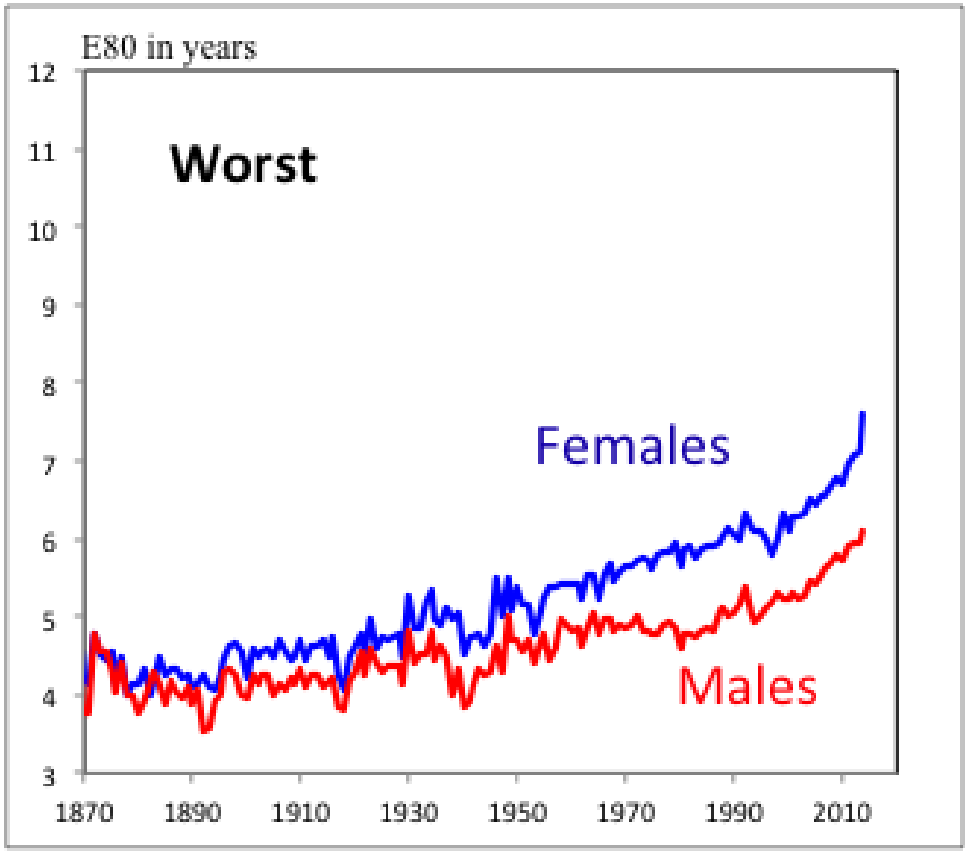


Gender gap and female e60 level



Life expectancy at age 80: Best and Worst

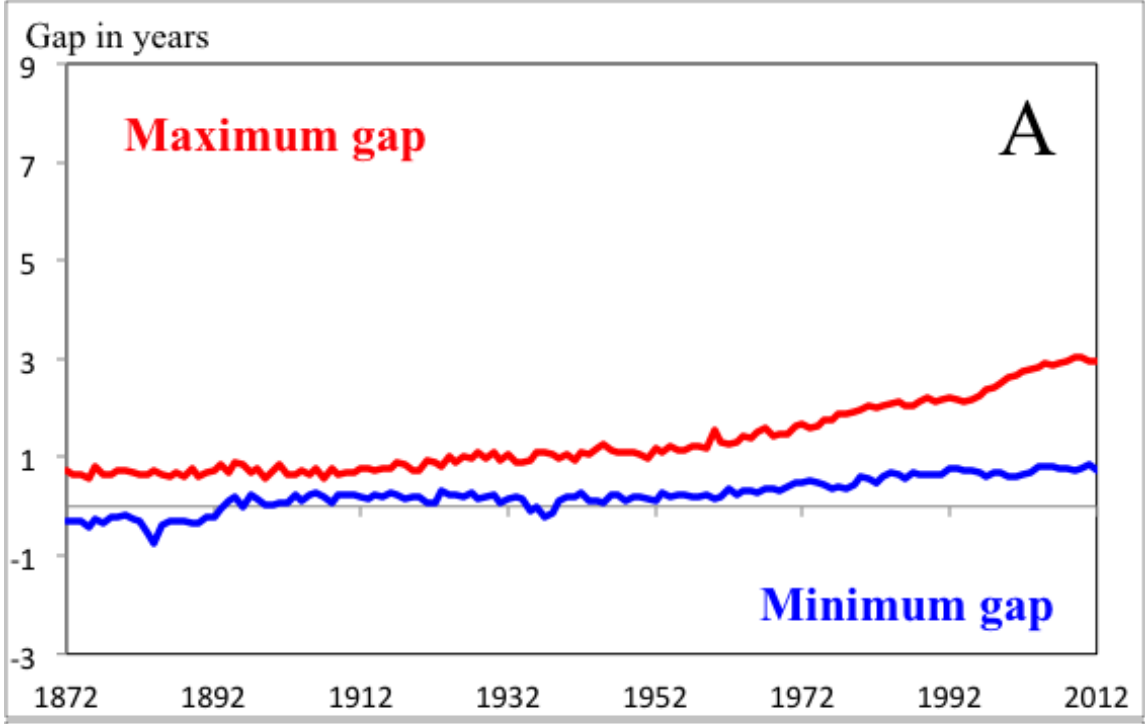


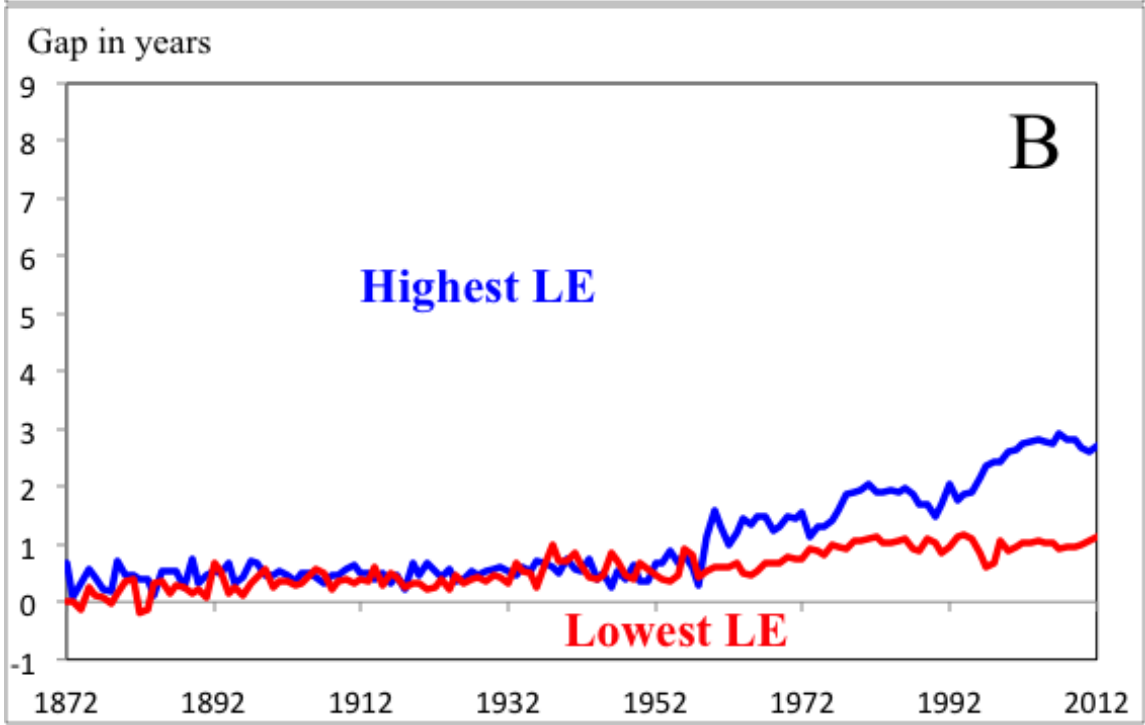


Gender gaps in life expectancy at age 80

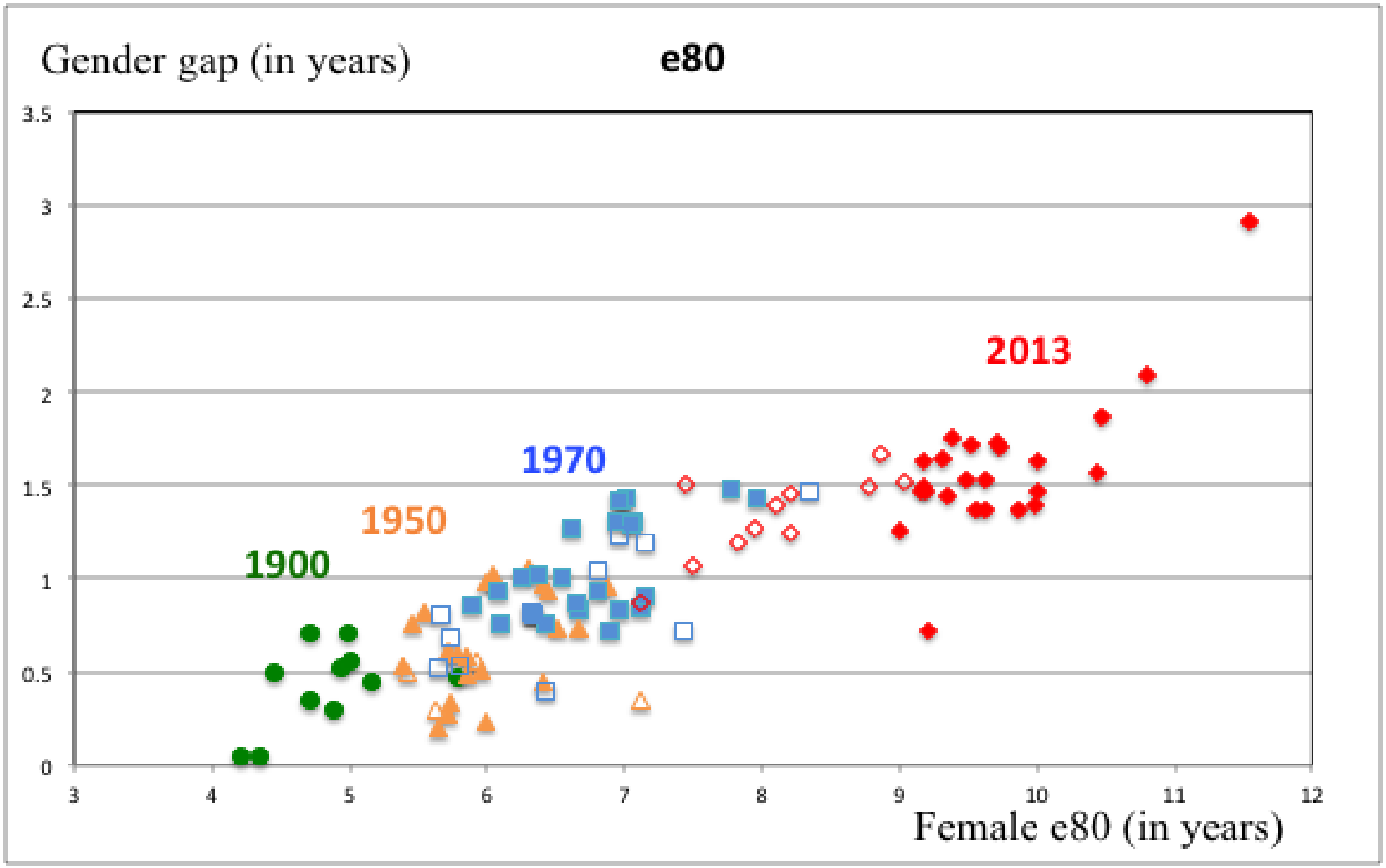
A: within a country

B: between best or worst performers





Gender gap and female e80 level



Conclusion (1)

- A general overview of HMD data confirms the steady increase of gender differences in life expectancy until the end of the 20th century:
  - Maximum and minimum differences increased
  - Differences between best and worst performers increased as well
- Shift of ages responsible for increasing gap. The higher the life expectancy, the higher contributing ages
- In the past low life expectancies were associated with small gender gaps while today they are associated with largest gaps
- Within the HMD universe, poorest health contexts were specially unfavorable to women while today they are more unfavorable to men

Conclusion (2)

- Historical trends don't show any indication of a golden standard for gender gaps in life expectancy
- Since the late 19th century, the fall of infectious diseases followed by the cardiovascular revolution induced an increase in differences
- Only recently the gap decreased thanks to changes in male behaviour (smoking, etc.), especially at working ages
- In countries which have just entered a new stage of health transition, related to aging and degenerative diseases, there is a gap widening at old age (e80). Once again women are showing the way…
- We are probably very far from reaching an equilibrium point, only depending on biological differences.