The relationship of fertility decline and individualization

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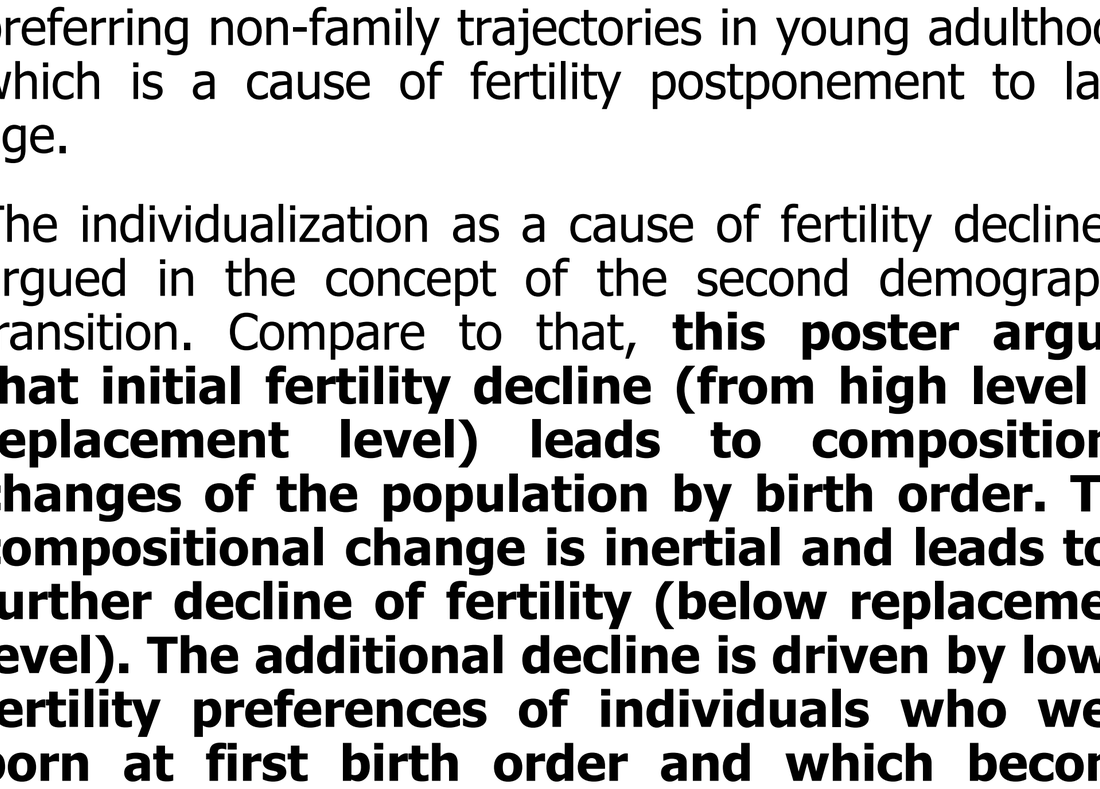
MOTIVATION

Both the first and the second demographic transition are used as an explanation of fertility decline. The simplified difference is that the first demographic transition describes the decline of the fertility from a very high level to a lower level, which is still above the replacement level (approximately 2.1 children per woman). In contrast, the second demographic transition describes decline, which continues below the replacement level. The fertility decline is related to changes in the parity composition of fertility, which lead to changes in population composition by birth order of individuals. In the first half of the 20th century, a psychologist Alfred Adler introduced an idea that family position can affect an individual's experiences and development, so each birth order position has its own set of personality traits [1]. As Miller's process of fertility decision-making process suggests, the individual traits are an important initial step to a realization of childbearing [2]. A review of 200 papers about birth-order personality differences shows that individuals born in first-order are more often leaders, highly motivated, and successful [3]. These characteristics can be the reasons for preferring non-family trajectories in young adulthood, which is a cause of fertility postponement to later age.

The individualization as a cause of fertility decline is argued in the concept of the second demographic transition. Compare to that, **this poster argues that initial fertility decline (from high level to replacement level) leads to compositional changes of the population by birth order. The compositional change is inertial and leads to a further decline of fertility (below replacement level). The additional decline is driven by lower fertility preferences of individuals who were born at first birth order and which become more and more dominant in the population.**



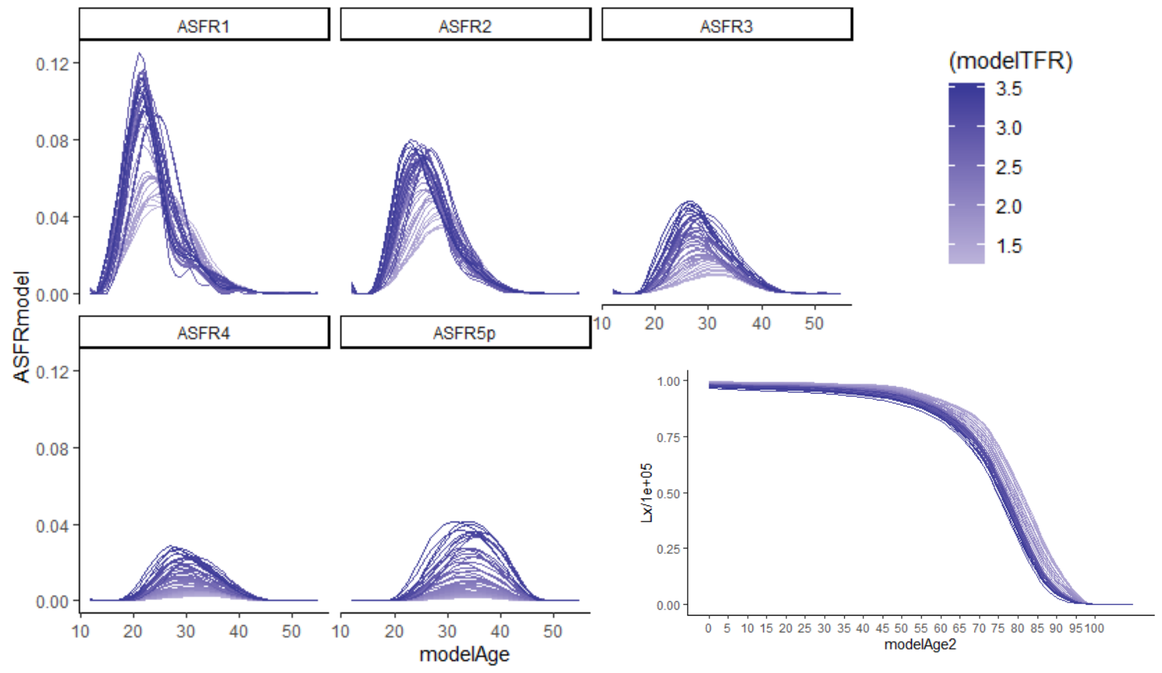
[1] ADLER, Alfred. Position in family constellation influences life-style. In: Readings in the Theory of Individual Psychology. Routledge, 2007. p. 323-340.

[2] MILLER, Warren B. Childbearing motivations, desires, and intentions: a theoretical framework. Genetic, social, and general psychology monographs, 1994.

[3] ECKSTEIN, Daniel, et al. A Review of 200 Birth-Order Studies: Lifestyle Characteristics. Journal of Individual Psychology, 2010, 66.4.

DATA AND METHODS

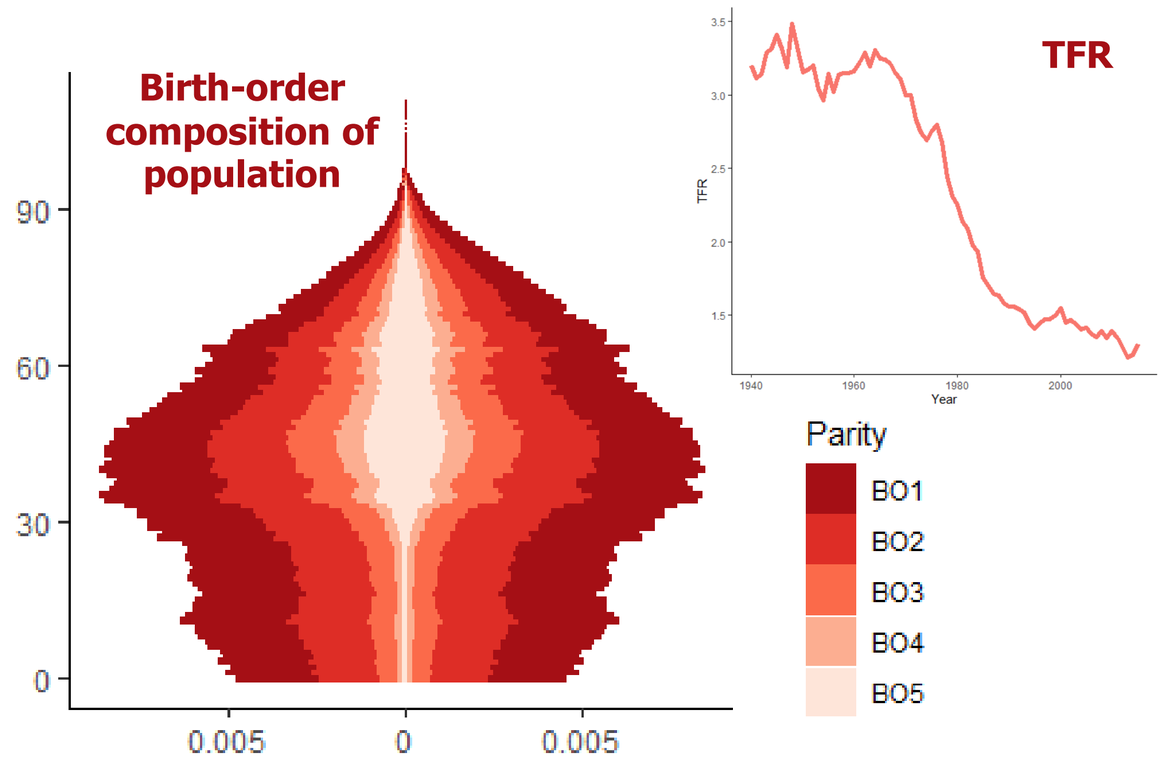
- Human Fertility Database: estimates of **age specific fertility rates for each** parity with respect of TFR level (model values see below)



- Human Mortality Database: estimates of **survival probability** between completed ages, for women and men (survival function for women see above)

RESULT for selected country: Portugal

- TFR from 1940 (3.2) to 2015 (1.3)
- Entering birth-order composition of population = the composition in 1940
- Projection: cohort-component method
- Same fertility and survival probability for each birth-order population subgroup
- Sex ratio at birth 105 boys to 100 girls



Composition (%)	bo1	bo2	bo3	bo4	bo5+
0 to 14 years	48.0	35.5	11.4	3.13	2.0
15 to 29 years	48.0	35.0	11.8	3.24	1.9
30 to 44 years	40.2	30.9	14.4	6.55	8.0
45 to 59 years	33.5	26.9	16.3	9.26	14.0
60 to 74 years	33.2	26.8	16.4	9.37	14.2
75 to 89 years	33.3	26.8	16.4	9.32	14.2
90+ years	33.3	26.9	16.4	9.33	14.1