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FROM EARLY TO LATE FERTILITY: COMPARATIVE EVIDENCE FROM ROMANIA AND MOLDOVA

**Fertility in Romania and Moldova: Exploring the Dynamics, Determinants and Policy Impact
(FERM)**

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Objectives

1. Comparative analysis of fertility dynamics in Romania and Moldova, with emphasis on the transition from early childbearing patterns to delayed fertility models.
2. To examine fertility trends from a longitudinal perspective, focusing on changes in reproductive behavior at cohort levels 1960-1980.
3. To assess the degree of fertility postponement and recuperation, through indicators such as the postponement index, mean age at first birth, and cohort fertility among women who have completed their reproductive period.

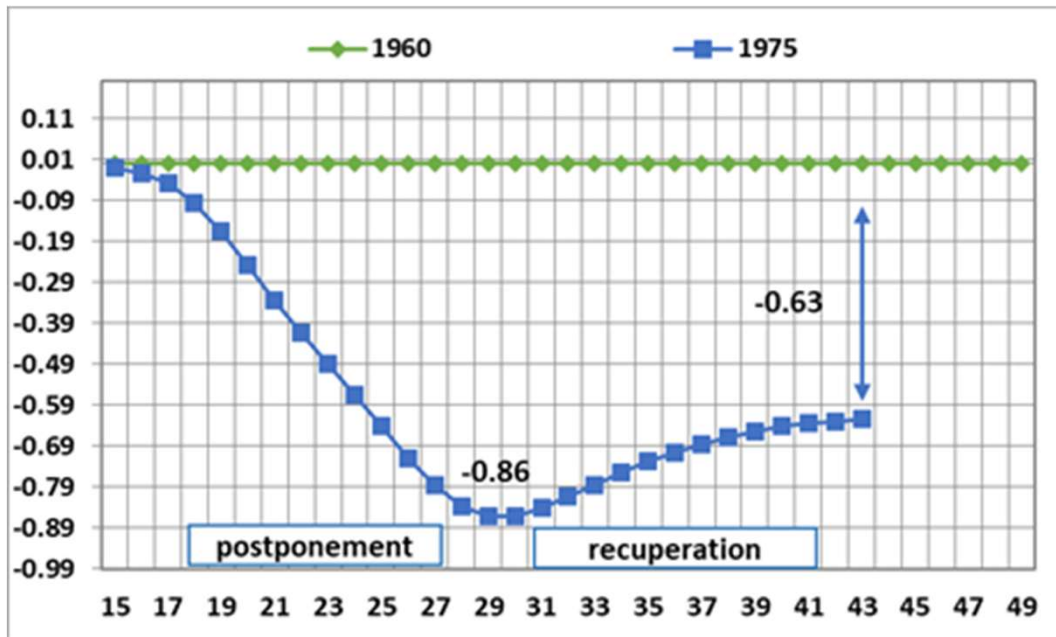
Theoretical framework

- *Fertility transition* marks the shift from high, natural fertility to low, controlled fertility, driven by modernization, healthcare, education, and gender equality
 - According to Demographic Transition Theory, fertility decline is part of broader socio-economic development.
- *The postponement and recuperation model (Sobotka)*
 - *fertility postponement* – fertility decline across younger ages, delayed childbearing past age 30
 - subsequent *recuperation* – the extent to which births are recovered later in life; a compensatory fertility increase at higher reproductive ages

Methodology

- comparative analysis of vital statistics provided by the National Bureau of Statistics of the Republic of Moldova and the National Institute of Statistics of Romania, regarding the number of births and their distribution by the mother's age (in five-year intervals for Romania) and by birth order, for the period **1971–2023**
- the cohort fertility reconstruction method applied on these data
- methods proposed by Sobotka, Zeman, Lesthaeghe and Frejka
- **The benchmark cohort** is the first cohort to register *a rise in the mean age at first birth* sustained *over at least five successive cohorts*.
 - This cohort serves as a country-specific reference for measuring deviations in fertility timing and quantum, offering a more objective standard than using a common reference across countries.
 - In this study, we use as benchmark the 1960 cohort for Romania and 1970 for Moldova.

Differences in CASFRs between female cohorts born in 1960 and 1975/1960 and 1980, Romania

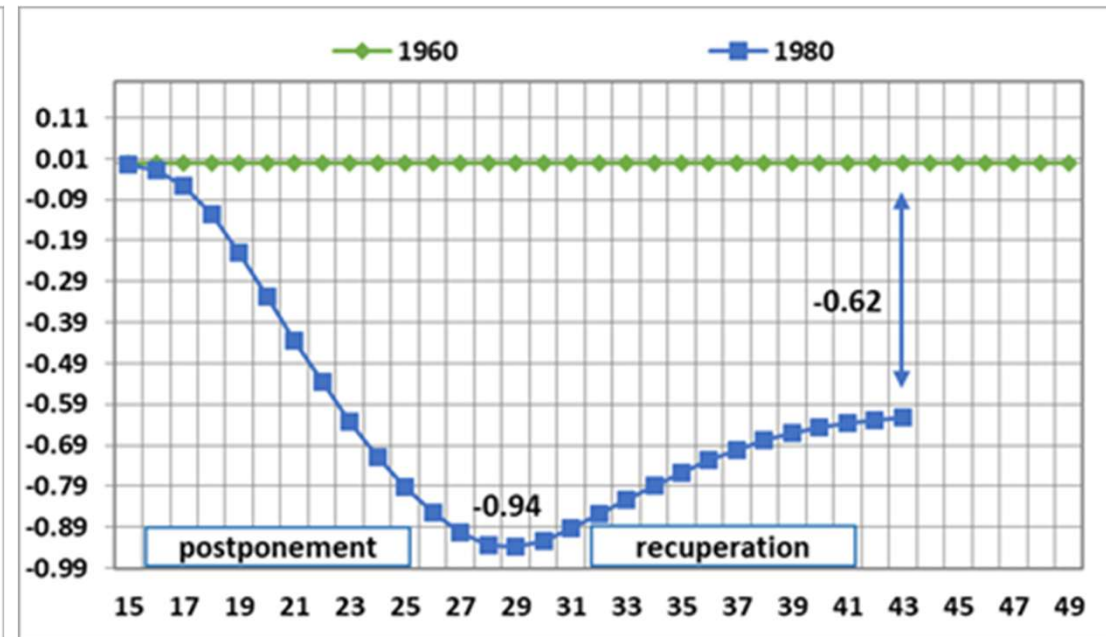


Maximum fertility decline (ages 15–29):

-0.86 children per woman

Fertility recovery (ages 30–49): **+0.23** children per woman

RI = 27% of postponed births recovered



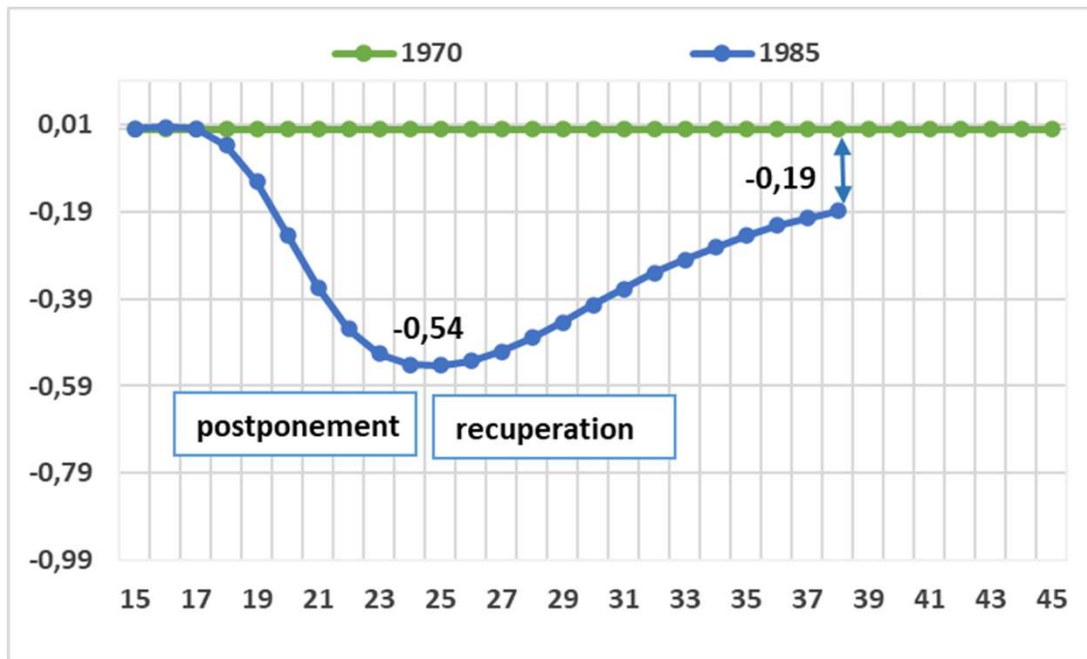
Maximum fertility decline (ages 15–29):

-0.94 children per woman

Fertility recovery (ages 30–49): **+ 0.32** children per woman

RI = 34% of postponed births recovered

Differences in CASFRs between female cohorts born in 1970 and 1985/1970 and 1990, Moldova

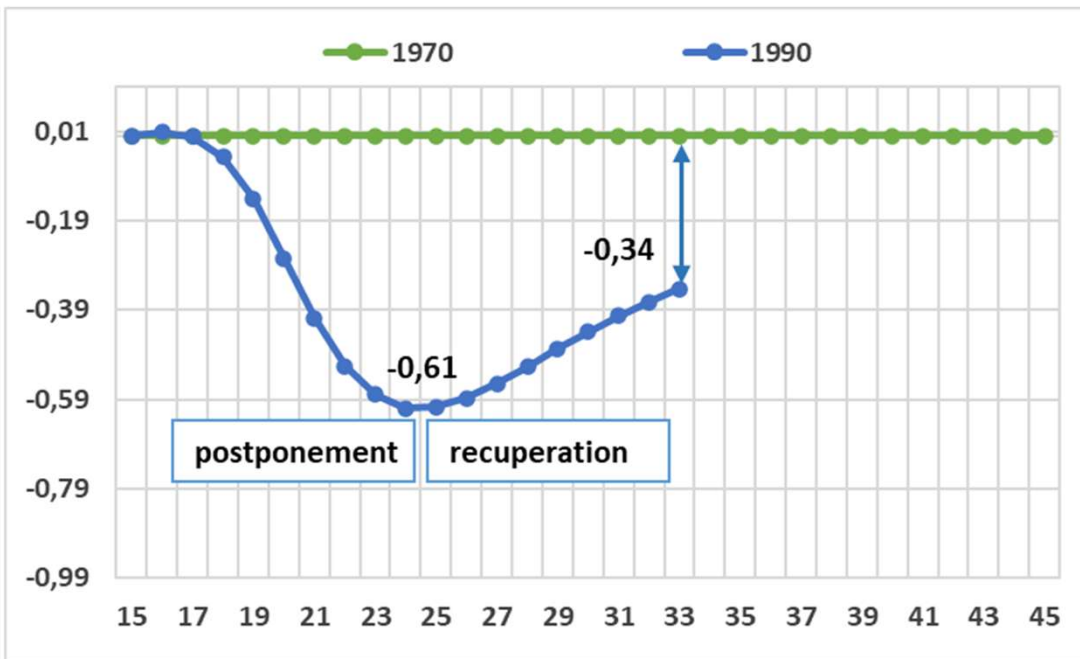


Maximum fertility decline (15–24):

-0.54 children per woman

Fertility recovery (ages 25–38): **+0.35** children per woman

RI=64.8%



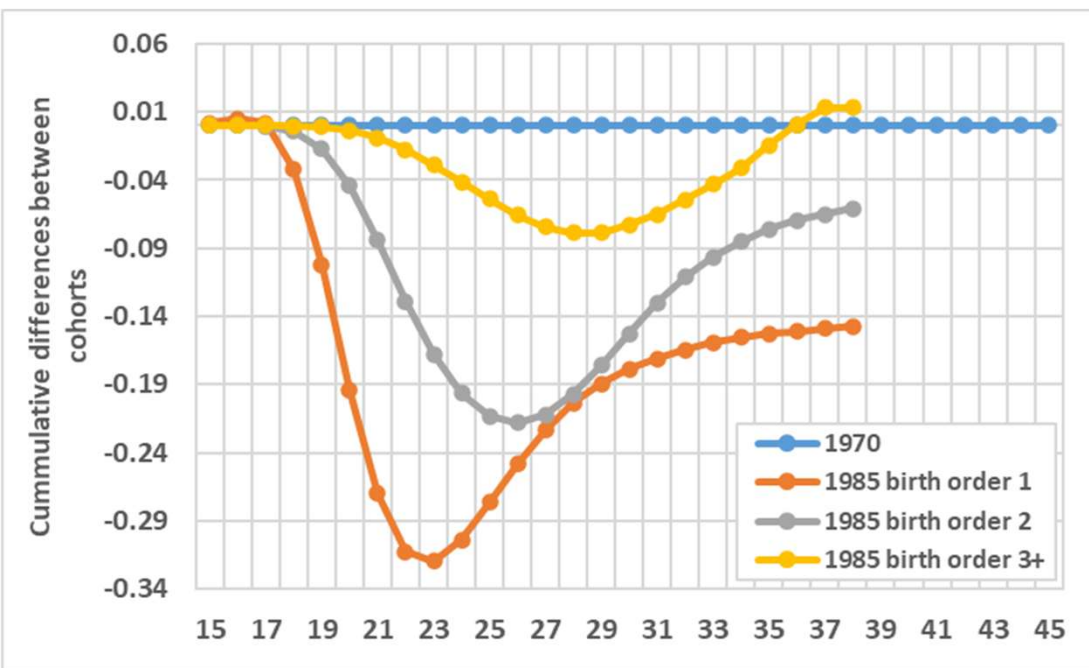
Maximum fertility decline (15-24):

-0.60 children per woman

Fertility recovery (ages 25–33): **+0.22** children per woman

RI=36.7%

Cumulative differences by birth order between the cohorts of women born in 1985 compared to the reference cohort of 1970, Moldova, children per woman

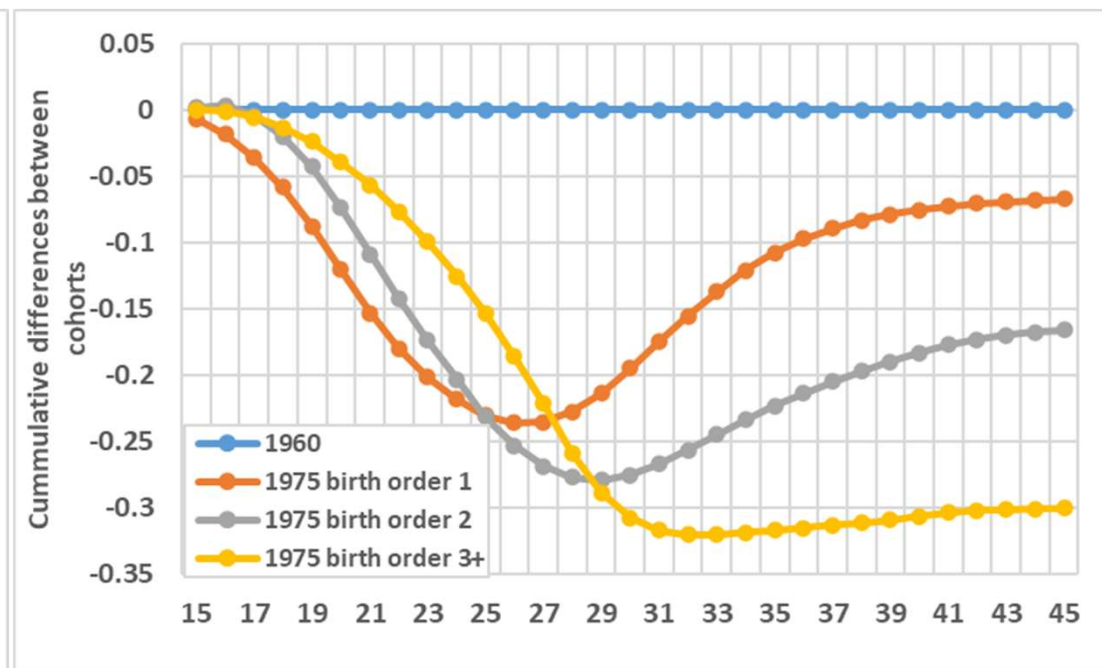


Birth Order 1 Maximum postponement (22–23): **-0.32** , Final difference: **-0.13**, indicating a recuperation of +0.19 children , **RI1=59%**

Birth Order 2 Maximum postponement (26–27): **-0.21**, Final difference: **-0.06**, suggesting a recuperation of +0.15 children , **RI2 =71%**

Birth Order 3+ Moderate early postponement **-0.07**, followed by full and even overcompensated recuperation **By age 37+**, the cumulative fertility difference turns positive (**+0.01**) **Indicates complete recovery** and slight increase in third and higher-order births

Cumulative differences by birth order between the cohorts of women born in 1975 compared to the reference cohort of 1960, Romania, children per woman

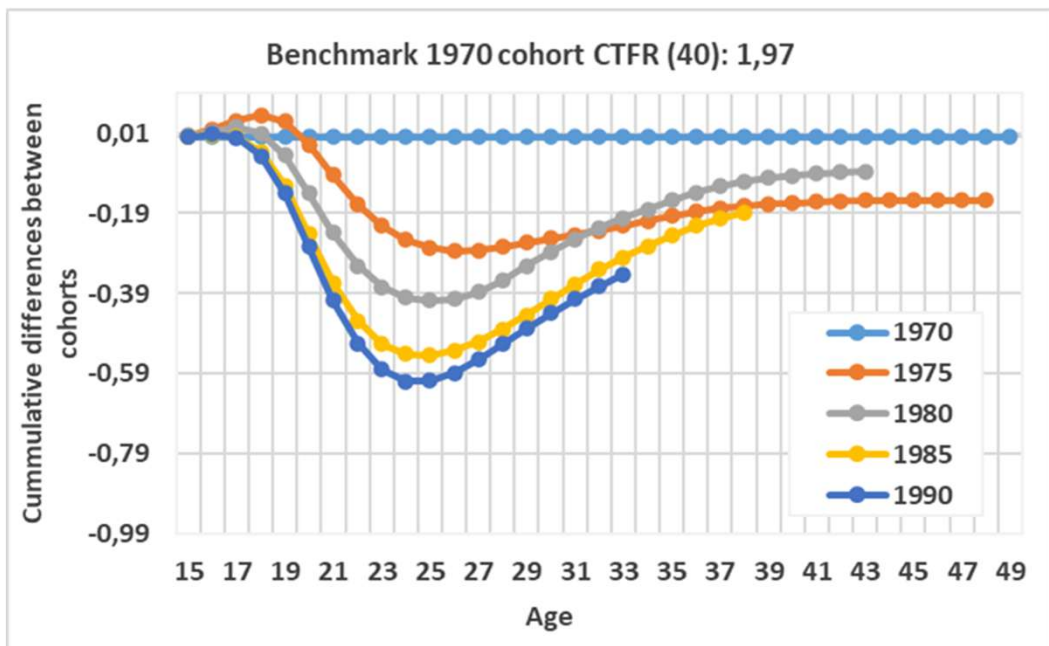


Birth Order 1 Maximum postponement (23 years): **-0.26**, Final difference (45): **-0.06**, meaning a recuperation of +0.20 children, **RI1=77%**

Birth Order 2 Maximum postponement (27 years): **-0.25**, Final difference: **-0.12**, indicating a recuperation of +0.13 children, **RI2=52%**, **reflecting a partial recovery of second births**

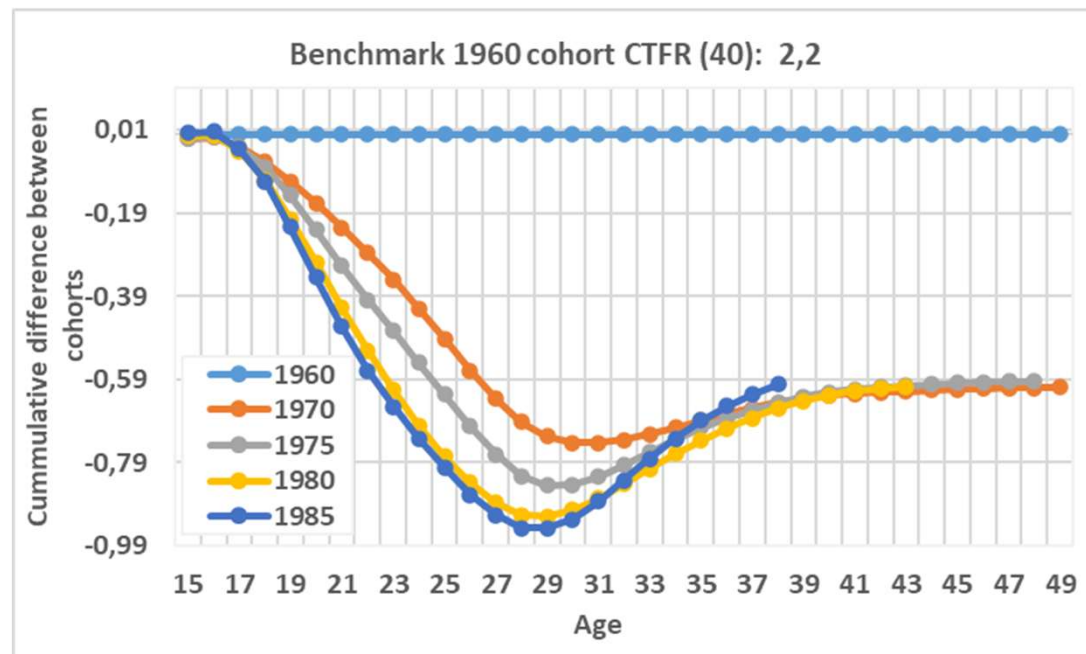
Birth Order 3+ Maximum postponement (26 years) : **-0.31**, Final difference: **-0.30**, implying negligible recuperation (+0.01), **RI3=3%**, **showing virtually no recovery in higher-order births**

Cumulative Differences in Age-Specific Fertility Rates, Reference Cohort 1970, Moldova



Later cohorts increasingly delay childbearing, with the 1990 cohort showing the greatest fertility postponement (-0.60 children at age 24). Although partial recovery occurs after age 30, none close the gap with the 1970 cohort. The onset of fertility postponement in Moldova occurred later and with a lower intensity than in Romania.

Cumulative Differences in Age-Specific Fertility Rates, Reference Cohort 1960, Romania



Partial recuperation occurs in older cohorts (1970, 1975), though none return to the fertility levels of the 1960 reference. The 1985 cohort shows limited recuperation, ending around -0.65 by age 49. Recuperation tends to stabilize around age 35-40, suggesting some birth rescheduling but incomplete recovery.

Conclusions

1. The onset of fertility postponement occurred earlier and more sharply in Romania than in Moldova:
 - In **Romania**, the **1960 cohort** marks **the beginning of the fertility transition**, with a visible postponement of births by the **1975 cohort** and a *maximum fertility delay of around -0.6 children by age 24*.
 - In contrast, in **Moldova**, postponement started later and with lower intensity, reaching its peak only for the **1990 cohort** (*-0.6 children at age 24*).


This indicates that **Romania entered the fertility transition phase approximately one generation earlier than Moldova**.

Conclusions

2. *Romania's fertility postponement* was *earlier and steeper* and resulted in a *weaker recuperation*, whereas *Moldova's delayed transition* allowed *greater recovery* and stability of cohort fertility levels.

- Romania shows partial recuperation of first and second births but virtually no recovery in higher-order births ($RI_3 \approx 3\%$)
- Moldova, by contrast, demonstrates a more balanced and complete recuperation pattern, with nearly full recovery by age 37 for second and higher-order births ($RI_2 \approx 71\%$; $RI_3 = +0.01$).

Conclusions

- Overall, Moldova preserves high-parity fertility, while Romania's fertility is reduced due to sustained deferral and non-recovery of larger families.
 - These findings underscore the demographic importance of analyzing fertility by parity.
 - Fertility transition in both countries reflects not only demographic dynamics but also significant social transformations, emphasizing the need for public policies tailored to the specific demographic patterns of each country.
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Fertility in Romania and Moldova: Exploring the Dynamics, Determinants and Policy Impact (FERM)

Romania Team

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Thank you for your attention!

