

DEBATE

Addressing the repro-paradox: From individual responsibility to the institutional conditions of reproductive timing

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ABSTRACT Low-fertility societies are experiencing an unprecedented postponement of parenthood, driven by structural transformations in education, labour markets, housing and parenting norms. While social expectations push childbearing into ever-later stages of the life course, biological limits remain unchanged, leading to age-related declines in fertility and growing reliance on assisted reproductive technologies (ART). This divergence between social and biological time constitutes a broader “repro-paradox”: systemic constraints delay family formation, yet individuals are increasingly held responsible for the consequences of postponed fertility. The normalisation of medicalised reproduction masks the cumulative demographic effects of fertility postponement, narrowing reproductive windows, rising unmet fertility intentions and widening social inequalities in access to ART. Rather than signalling technological progress, growing ART dependence reflects structural failures to enable parenthood under optimal conditions. This contribution argues for reframing reproduction as a public good requiring collective responsibility and supportive institutional environments. Only through coherent social and family policies can societies restore reproductive resilience and realign biological and social temporalities.

KEYWORDS Reproductive paradox • Fertility postponement • Assisted reproduction • Reproductive resilience • Social and family policy

Background

Low-fertility populations find themselves at a point that would have seemed improbable merely two generations ago: the mean age of mothers at first birth is approaching 30 years and has already surpassed this threshold in many countries (Beaujouan, 2020). In several metropolitan regions, first motherhood is shifting towards ages 32–34 (Riederer and Beaujouan, 2024). This trend is deeply entrenched; it reflects not only individual preferences, but a structural reorganisation of the life course shaped by the mass expansion of education; labour market insecurity; housing precarity; increasing demands for self-realisation; and the norms of “intensive parenting”, whose requirements are often more manageable at older parental ages (Ní Bhrolcháin and Beaujouan, 2012; Gauthier and de Jong, 2021; Vignoli et al., 2022; Ruckdeschel, 2024; van Wijk and Billari, 2024).

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Yet biological reality remains unchanged: women's fertility declines markedly after the age of 35, and biological limits cannot be extended at the pace at which social norms are shifting (Leridon, 2017). This asymmetry between individuals' reproductive plans and their biological time is increasingly compensated for by medicine at the limits of its efficacy. In several European countries, 5–6% of all births already occur through assisted reproduction (Smeenk et al., 2023). The extent to which more ART cycles are now needed compared with two decades ago is evident in the rising utilisation of ART services: cycle numbers are increasing, client ages are rising and clinical complexity is growing (Kocourková et al., 2023; Smeenk et al., 2025). Simultaneously, we observe a growing normalisation of medicalised reproduction, including routine prenatal screenings, social egg freezing, preimplantation genetic testing and gamete donation (Cutas and Smajdor, 2019; Rimón-Zarfaty et al., 2021; Kushnir et al., 2022). Together, these developments create an impression that reproduction is increasingly managed by technology rather than by natural timing. At the same time, there is growing support for the strategic integration of ART into population and family policies, with infertility increasingly framed as a public health concern (Adamson et al., 2025; Castela and Mendes, 2025).

From a population perspective, this shift has several implications. First, the share of children born without any medical intervention is decreasing. Second, social differentiation is increasing: ART is used more often by individuals with higher education and more stable incomes (Cutas and Smajdor, 2019; Goisis et al., 2024; Suero et al., 2025). Third, shifting fertility to older ages narrows the reproductive window, leaving less time for the fulfilment of reproductive plans (e.g. having a second child), and thus a higher proportion of intended births remain unrealised (Bratti and Tatsiramos, 2012; Timæus and Moultrie, 2013; Beaujouan and Berghammer, 2019; Beaujouan et al., 2019; Compans et al., 2023).

When we ask whether we should be concerned about the consequences of late fertility and the rising number of children born through ART, we are in fact asking what price we are paying for the divergence between social and biological time. This question is less medical than deeply social. Its answer lies in a new approach to reproduction, one that understands reproductive freedom not as an individual privilege, but as a public good that must be protected and supported at the societal level.

Late parenthood as an adaptation, not a choice

At the level of individual health, the risks associated with higher maternal and paternal age are well documented: declining natural fertility, increased pregnancy complications and a higher likelihood of genetic abnormalities. Medicine, however, monitors and mitigates these risks with increasing effectiveness. What is insufficiently discussed is the population dimension. What cumulative impact does postponed parenthood have on the reproductive capacity of the population?

We know that later first births reduce the space available to realise a two-child family, increase the likelihood that fertility intentions are unmet, heighten dependence on technology and lead to higher healthcare system costs. This brings us to the concept of reproductive resilience, which has been defined as the ability of a society to maintain its

reproductive capacity under conditions of growing uncertainty (Gatta et al., 2022; Dearden and Weissenburger, 2025; Lindström, 2025). Late fertility weakens this capacity. Research shows the existence of a fertility timing gap, i.e. the difference between the desired and the actual timing of the first birth (Slabá et al., 2024; Verweij et al., 2020). Notably, the later women intend to enter motherhood, the later they actually experience their first birth, often due to unforeseen barriers such as partnership instability or emerging health problems. Planned postponement is often compounded by further delays due to longer-than-expected time to conception (Compans et al., 2025), leaving insufficient space for women to have the total number of children they had planned to have. ART can compensate for some of these losses, but the effectiveness of ART and other MAR treatments decreases with increasing age (Leridon, 2017; Chanfreau et al., 2025; Suero et al., 2025).

If the reproduction of an increasing proportion of the population becomes dependent on ART, this is not evidence of technological progress, but rather a signal of systemic failure of a society unable to support the realisation of parenthood during the biologically optimal stage of life. It is a sign that the social environment is no longer reproductively enabling. Late fertility is not a personal failure, but an adaptation to a society that cannot reconcile work, family and care. The concern, therefore, should not target the postponement of childbearing per se, but rather the structural conditions that render postponement nearly unavoidable. When reproduction becomes increasingly medicalised, it is appropriate to be concerned, but this concern should not be directed at medicine, at individuals who use ART or at the children who are conceived via ART. It should instead be directed at society, which creates the conditions in which late fertility becomes the rational choice.

Technology itself is not the problem. The problem arises when technology begins to be used as a substitute for the conditions that should be ensured by social and family policy: namely, stability, predictability, accessible services and equal opportunities to form a family at a biologically and socially optimal time. We should therefore be less concerned about the growing number of IVF births and far more concerned about why an increasing share of births now depend on assisted reproduction. This trend reflects not individual choice, but rather structural failure that systematically pushes parenthood into a life phase in which reproduction must often be medically managed.

The repro-paradox as a conceptual framework

The developments described above, from the systematic postponement of parenthood to the rising medicalisation of reproduction and the growing share of unrealised fertility intentions, can be understood as manifestations of a broader repro-paradox in modern societies. This paradox lies not merely in the mismatch between biological limits and social life course timing, but more fundamentally in the contradiction between what is socially expected from individuals, particularly women, and the structural conditions societies actually provide. While reproductive responsibility is formally framed as gender neutral, in practice women's reproductive timing and decisions remain subject to greater scrutiny, moral pressure and stigma, while men's reproductive roles are less publicly problematised.

As a result, the burdens of navigating this contradiction are unequally distributed, with women being disproportionately held accountable for outcomes that are structurally produced.

An illustration of the conceptual utility of the repro-paradox is offered by Bach and Breengaard (2025). The authors show that contemporary European societies – Denmark in their case – confront a paradoxical convergence of two contradictory narratives: on the one hand, there is the narrative of “too few children” threatening the sustainability of the welfare state; on the other hand, there is the narrative of “too many people”, which, in the context of the climate crisis, problematises reproduction itself. These discourses do not merely coexist; they meet in a powerful way in the individualisation of responsibility for reproduction.

The key shift identified by Bach and Breengaard (2025) is the movement from political responsibility to individual responsibility. Demographic challenges, whether low fertility or environmental sustainability, are increasingly framed as outcomes of individual choices and lifestyles rather than institutional arrangements. In this framing, reproduction becomes a moral project of the individual, who is expected to have a child “properly”, “on time”, “responsibly” or not at all if doing so would be ecologically unsustainable (Meynell et al., 2024). This discursive shift is crucial because it positions reproduction as a matter of personal ethics rather than a legitimate domain of public policy.

Within this framework, assisted reproductive technologies appear as a paradoxical solution to a structural problem. Instead of political reflection on the conditions that systematically delay parenthood, we witness the normalisation of individual biomedical interventions (Cutas and Smajdor, 2019; Kushnir et al., 2022). As Bach and Breengaard (2025) argue, biomedicine increasingly emerges as a key actor in addressing the “national reproductive crisis”, while the political sphere remains surprisingly reserved. Reproductive risk is thus externalised from society mainly onto women’s bodies, with their ageing oocytes and “ticking biological clocks” (Rose, 2007).

This mechanism corresponds with the broader logic of late modernity, in which systemic failures are reinterpreted as failures of individual planning, awareness or responsibility (Rosa, 2013). Postponed parenthood is thus understood not as a rational adaptation to insecure labour markets, unaffordable housing and intensive parenting norms, but instead as a consequence of insufficient “fertility awareness” (Adamson et al., 2025). The subsequent need for ART is then presented as a personal medical issue rather than the cumulative result of structural temporal pressures.

The repro-paradox therefore exposes not only the tension between biology and society, but also the political silence surrounding the question of who bears responsibility for reproductive sustainability. As an analysis of the media discourse shows (Bach and Breengaard, 2025), the state increasingly appeals to individuals to align their reproductive behaviour with abstract goals, such as the sustainability of the welfare state, the climate or the nation, without providing the structural conditions necessary to do so. Reproductive decision-making thus unfolds not in a realm of genuine choice, but in a space of moral dilemma.

From this perspective, the key challenge is not to optimise individual reproductive responsibility, but rather to recognise reproduction more clearly as a legitimate domain

of public policy. Reproduction should be understood as shaped by the interaction between biological time, life course structures and institutional arrangements, rather than framed primarily as a matter of individual planning. This requires us to shift our attention from individual-level optimisation to the social and institutional conditions that make parenthood at biologically and socially favourable ages structurally feasible.

Importantly, the repro-paradox is not confined to weakly supportive welfare regimes. Even in comparatively family-friendly contexts such as France and the Nordic countries (Gauthier and Gietel-Bastel, 2025), fertility postponement and growing reliance on assisted reproductive technologies follow trajectories strikingly similar to those observed in less supportive contexts such as Italy or the United States. This convergence suggests that the repro-paradox reflects deeper structural tensions in contemporary life courses, including prolonged education, early career competition, housing insecurity and demanding norms of intensive parenting, which compress the window for family formation even in contexts with supportive institutions.

What requires “fixing” in generous welfare regimes is therefore not family policy instruments as such, but rather their temporal and institutional alignment with contemporary life course dynamics. While Nordic and French policy packages reduce the direct costs of having children and support work–family reconciliation once parenthood has begun, they do little to address constraints operating earlier in the life course, such as delayed transitions to stable employment and secure housing. As a result, even highly developed welfare states tend to stabilise late parenthood rather than counteract its structural drivers, indirectly reinforcing reliance on medicalised reproduction.

This opens the space for a reorientation of social and family policy towards conceiving of reproduction not as a purely private decision, but instead as an interrelation between biological time, social structures and public responsibility for future generations. Such a policy would not shift reproductive risk onto individuals but would distribute it collectively by ensuring stable employment trajectories, accessible housing, functional care systems and real possibilities for reconciling work and family life. Calls to situate family policy within its wider institutional and normative context, including workplace cultures and cross-policy alignment, point in this direction (Gauthier and Gietel-Bastel, 2025). While the integration of ART support into family policies is valid (Castela and Mendes, 2025), assisted reproductive technologies should remain complementary tools, not substitutes for inadequate social arrangements.

Addressing the repro-paradox therefore requires shifting the focus from individual behaviour to the institutional conditions that shape reproductive timing and capacity. Even in a context where responsibility is more evenly shared between individuals and society and the structural conditions for family formation are improved, some people will still choose not to have children. Such choices should be recognised as legitimate and valued at the societal level.

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