

Understood. I will gather high-quality economics research that causally estimates the impact of fertility-increasing interventions in highly developed countries. The focus will be on rigorous causal research designs, including RCTs, natural experiments, and difference-in-differences approaches, among others. I will provide a detailed summary with links to the studies for further reference.

I will update you once the research is complete.

Introduction

Many highly developed countries face **persistently low fertility rates**, spurring interest in policies to encourage childbearing. Economists have analyzed a range of interventions – from direct **financial incentives** (e.g. cash benefits, tax credits) to **indirect supports** like parental leave and subsidized childcare – using rigorous causal designs. This review synthesizes high-quality research that estimates **causal impacts** of such fertility-enhancing interventions. We focus on studies employing credible identification strategies (natural experiments, RCTs, difference-in-differences, regression discontinuities, etc.), and report effect sizes in comparable units (e.g. percentage changes in birth rates or births per woman). Key findings are organized by policy type, with attention to study context, methods, effect magnitudes, and heterogeneity. We also discuss overarching patterns, limitations (e.g. short-term vs. long-term effects, external validity), and the relative effectiveness of different policies based on causal evidence.

Financial Incentives: Child Benefits and Tax Credits

Financial incentives – such as **child allowances**, “**baby bonuses**,” or **tax breaks for parents** – have been implemented to directly lower the cost of having children. **Causal studies** generally find that cash transfers can modestly increase fertility, though effect sizes vary by context and parity (birth order). Below are key examples:

- **Spain’s “Baby Bonus” (2007–2010)** – Spain introduced a universal one-time payment of €2,500 for each newborn in mid-2007, then abruptly cancelled it at end-2010. Using nationwide administrative data and a natural experiment design, González and Trommlerová (2023) find the subsidy’s introduction **boosted birth rates by about 3%** ([Generous Child Benefits Can Increase Fertility – News & Research Highlights](#)). The policy worked by both increasing conceptions and reducing abortions. Conversely, when the bonus was removed during a recession, births fell by about **6%** ([Generous Child Benefits Can Increase Fertility – News & Research Highlights](#)). This asymmetric response suggests the incentive had a real impact on fertility decisions (the removal effect was larger, potentially due to the concurrent economic crisis). Notably, the timing of births shifted: some women had children earlier than they otherwise would have (tempo effect), *and* the total number of births increased slightly (quantum effect) ([Generous Child Benefits Can Increase Fertility – News & Research Highlights](#)).

- Quebec's Allowance for Newborn Children (1988–1997)** – The Canadian province of Quebec ran a generous pronatal policy that paid families up to C\$8,000 per child (with higher payments for higher-order births). Milligan (2005) exploits this **natural experiment** (comparing Quebec to other provinces over time) and finds a **strong fertility response** ([Subsidizing the Stork: New Evidence on Tax Incentives and Fertility | NBER](#)) ([Subsidizing the Stork: New Evidence on Tax Incentives and Fertility | NBER](#)). The policy significantly increased birth probabilities, especially for third children. Empirically, **third-birth rates rose on the order of 15–20%** under the incentive (), and second-birth rates by roughly 10% (). First births also rose modestly (~4%) (). These sizeable impacts at the intensive margin (additional children per family) show that a large, broad-based cash incentive can induce families to have more children. Subsequent analysis suggested that while some of this was a timing acceleration, a portion represented an increase in completed family size (). However, the cost per extra birth was high, indicating efficiency concerns ([EconPapers: A 'Natural Experiment' on the Economics of Storks: Evidence on the Impact of Differential Family Policy on Fertility Rates in Canada](#)) ([EconPapers: A 'Natural Experiment' on the Economics of Storks: Evidence on the Impact of Differential Family Policy on Fertility Rates in Canada](#)).
- Germany's Child Benefit Increase (1996)** – A reform of Germany's child allowance system in 1996 created **heterogeneous increases in benefits** by income and number of children. Riphahn and Wiyenck (2017) use a difference-in-differences design leveraging these variations. **Higher-income couples showed a positive fertility response**, specifically in transitions to second births, whereas **no significant effect was detected for low-income couples** ([Fertility Effects of Child Benefits | IZA - Institute of Labor Economics](#)). The estimated impact was modest – the study finds “some support” for an increase in second-birth probabilities among better-off families, but overall the reform's average effect was small ([Fertility Effects of Child Benefits | IZA - Institute of Labor Economics](#)). This suggests that financial incentives might need to be sizable or well-targeted to overcome opportunity costs for affluent parents.
- Targeted Birth Incentive for Large Families (Cyprus)** – Lyssiotou (2021) examines a policy in Cyprus that introduced a new monthly child benefit **only for families with ≥ 4 children**. Using a quasi-experimental approach (comparing the probability of having a fourth child (treated) vs. a third child (control) before and after the reform), she finds the benefit **significantly increased the likelihood of a fourth birth by about 5%** ([Can Targeted Child Benefits Affect Fertility? Evidence from a Natural Experiment](#)). As expected, there was **no change in higher-order births (5th+)** – the incentive specifically prompted three-child families to go for a fourth, without affecting those who already had four. There was also no spillover to third-birth rates in the same period ([Can Targeted Child Benefits Affect Fertility? Evidence from a Natural Experiment](#)). This targeted program's effect size (5% increase) underscores that even *conditional* cash incentives can alter behavior among families on the margin of deciding for another child.
- Poland's Family 500+ Program (2016)** – Poland implemented a generous child allowance (500 PLN per month per child, about €110) aimed at boosting one of Europe's lowest fertility rates. A recent study by Bokun (2024) uses a difference-in-differences approach on survey data. In the **short term**, the policy is associated with an increase in the annual probability of birth by about

1.5 percentage points on average ([Cash transfers and fertility: Evidence from Poland's Family 500+ Policy \(Volume 51 - Article 28 | Pages 855–910\) - Demographic Research](#)). Given Poland's low baseline birth rates, this translates to a modest relative rise. Importantly, the response was **heterogeneous**: women in their 30s responded positively (birth probability up **0.7–1.8 p.p.** for ages 31–40), whereas younger women (ages 21–30) actually had **lower** short-run fertility (down ~2.2–2.6 p.p.) ([Cash transfers and fertility: Evidence from Poland's Family 500+ Policy \(Volume 51 - Article 28 | Pages 855–910\) - Demographic Research](#)). Higher-income women also did not increase births. These patterns suggest the cash transfer encouraged some older mothers to have an additional child (or not delay one), but younger women may have postponed childbearing (possibly to take advantage of the benefit later or due to labor market concerns) ([Cash transfers and fertility: Evidence from Poland's Family 500+ Policy \(Volume 51 - Article 28 | Pages 855–910\) - Demographic Research](#)) ([Cash transfers and fertility: Evidence from Poland's Family 500+ Policy \(Volume 51 - Article 28 | Pages 855–910\) - Demographic Research](#)). Overall, Poland's policy had a **small positive effect** on fertility, concentrated in certain demographics, highlighting that economic incentives can yield differing responses across age and income groups.

- **Other Contexts:** Several other studies reinforce that **financial incentives generally induce small-to-moderate fertility increases**. In Italy, regional “baby bonus” programs in the 2000s led to modest upticks in births (on the order of a few percentage points) ([\(PDF\) The impact of the bonus at birth on reproductive behaviour in ...](#)). In **Russia**, a substantial 2007 package (including a ~\$10,000 “maternity capital” grant for second births) coincided with the TFR rising from 1.42 to 1.75 over 2007–2014 ([Estimating effects of 2007 family policy changes on probability of second and subsequent births in Russia](#)). Research attributes a portion of this increase to the policy: one study found a significant rise in the hazard of second births after 2007 ([Estimating effects of 2007 family policy changes on probability of second and subsequent births in Russia](#)), though it cautions that some of the effect may reflect **tempo changes** (earlier births) rather than a lasting boost to completed fertility ([Estimating effects of 2007 family policy changes on probability of second and subsequent births in Russia](#)). In summary, **cash transfers and tax benefits can positively influence fertility**, but the magnitude depends on the incentive size, design, and target population. Large, broad incentives (e.g. Quebec, Spain) tend to show the clearest gains, whereas smaller or narrowly-targeted benefits yield more muted effects. Importantly, many studies find **bigger impacts on higher-order births** (intensive margin) than on the decision to have any child (extensive margin) ([EconPapers: Children of a \(Policy\) Revolution: The Introduction of Universal Child Care and its Effect on Fertility](#)) ([ba_he_ra_JEEA_preprint.dvi](#)).

Parental Leave Policies

Parental leave entitlements – especially job-protected maternity/paternity leave and associated pay – affect the **opportunity cost of childbearing**. Generous leave policies can encourage births by making it easier for parents (mothers, in particular) to take time off work with less career penalty. Causal research shows that **expanding parental leave can increase fertility**, though effects depend on policy specifics

(length of leave, paid vs. unpaid, etc.) and often influence **birth timing** as well as total number of children.

- **Unpaid Job-Protected Leave (United States, FMLA)** – The U.S. Family and Medical Leave Act of 1993 was a **natural experiment** in job-protected maternity leave (12 weeks unpaid) for eligible workers. Cannonier (2014) compares women who became eligible for FMLA (e.g. working in firms ≥ 50 employees) to those who weren't, before vs. after 1993. The **hazard of childbirth increased for eligible women**: the probability of having a first birth rose by about **1.5% per year**, and second-birth probability by $\sim 0.6\%$ per year ([Does the Family and Medical Leave Act \(FMLA\) Increase Fertility Behavior?](#)). These are relatively small increases, but statistically significant. They imply that eligible women tended to **have their children slightly earlier** than they otherwise would – on average FMLA moved first births about 1 year earlier, and second births ~ 8.5 months earlier ([Does the Family and Medical Leave Act \(FMLA\) Increase Fertility Behavior?](#)). Thus, providing even unpaid leave entitlements had a **positive (if modest) fertility effect**, primarily by accelerating planned births. Notably, other work finds this effect was concentrated among higher-SES (educated, white) women ([Does the Family and Medical Leave Act \(FMLA\) Increase Fertility ...](#)), who could afford unpaid leave, suggesting limited impact on lower-income groups.
- **Paid Family Leave (California, US)** – Several U.S. states later introduced **paid leave**. California's Paid Family Leave (2004) offers an interesting case: it provides around 6 weeks of partially paid leave for new parents. Research by Bana, Bedard & Rossin-Slater (2020) uses a regression kink design on California administrative data (leveraging an earnings threshold in the benefit formula) (). While their main focus is on leave uptake, some analyses indicate **no large fertility spike at the threshold**, suggesting the **income effect of short paid leave was insufficient to significantly change birth rates** in the short run. However, newer work (Meyerhofer, 2021) finds **California's paid leave led to a slight increase in birth probabilities for higher-educated women**, echoing the pattern from FMLA (i.e. those most able to utilize leave benefits respond with modest fertility increases) ([\[PDF\] Does Paid Family Leave Cause Mothers to Have More Children ...](#)). Overall, evidence from U.S. leave expansions (unpaid and paid) points to **small fertility gains**, mainly through **birth timing adjustments** and primarily among women with stable jobs.
- **Extending Paid Leave Generosity (Austria)** – In contrast, *major* extensions of paid leave have yielded more noticeable effects. A **1990 reform in Austria** extended job-protected, paid maternity leave from 1 year to 2 years per child. Crucially, women could “roll over” benefits if they had another baby while still on leave – effectively creating a strong incentive to have a second child quickly (to continuously stay on paid leave) ([Does Parental Leave Affect Fertility and Return-to-Work? Evidence from a "True Natural Experiment" | IZA - Institute of Labor Economics](#)). Lalive and Zweimüller (2009) exploit this as a “**natural experiment**” with random assignment (due to an eligibility cutoff by child's birthdate). They find the extended leave *significantly increased subsequent fertility*: women who received the longer leave were **4.9 percentage points more likely ($\approx 15\%$ increase)** to have another child within 3 years ([Does Parental Leave Affect Fertility and Return-to-Work? Evidence from a "True Natural Experiment"](#)

[| IZA - Institute of Labor Economics](#)). Even over a 10-year period, their probability of an additional birth was 3.9 p.p. higher ([Does Parental Leave Affect Fertility and Return-to-Work? Evidence from a "True Natural Experiment" | IZA - Institute of Labor Economics](#)). This indicates the policy not only accelerated second births (short spacing) but also **raised completed fertility** for some families. Interestingly, a later policy reversal (reducing leave from 2 years back to 18 months in 1996) did *not* reduce fertility ([Does Parental Leave Affect Fertility and Return-to-Work? Evidence from a "True Natural Experiment" | IZA - Institute of Labor Economics](#)) – suggesting that once women had adapted their fertility plans, slightly less generous leave did not deter them from having their intended children. The Austrian case shows that **lengthy, paid leave incentives can cause a sizable uptick in births**, particularly by encouraging closely-spaced second or third children.

- **Earnings-Linked Parental Benefit (Germany)** – Generosity of benefits can matter. Germany’s 2007 parental leave reform shifted from a flat stipend to an **earnings-related benefit** (compensating ~67% of prior salary for 12–14 months). This sharply increased the financial incentive for higher-earning women to have children (worth up to €21,000 more in benefits for some) ([Can financial incentives reduce the baby gap? Evidence from](#)) ([Can financial incentives reduce the baby gap? Evidence from a ...](#)). Raute (2019) uses a difference-in-differences strategy, comparing fertility changes among high-educated (high potential earners) vs. less-educated women before vs. after 2007. She finds a **substantial fertility increase among career women**: over five years post-reform, fertility of tertiary-educated women rose by up to **22% relative to less-educated women** ([MergedFile](#)) ([MergedFile](#)). In particular, women in the middle and top of the income distribution drove this increase – those who stood to gain most from the new wage-linked benefit were more likely to have a child (or an additional child) ([MergedFile](#)). This narrowed the “baby gap” between high and low-educated groups ([MergedFile](#)). The evidence suggests that **well-compensated leave (tied to prior earnings)** can effectively encourage higher-income couples to have children, by offsetting the career cost. It’s a stark contrast to the 1996 German benefit hike (which had negligible impact on low earners) – implying that **incentive design** (e.g. replacing lost income) is crucial to elicit a fertility response among those with high opportunity costs.
- **Nordic Parental Leave** – Reforms in Scandinavia have also been studied. For example, *Norway* in the 1990s extended paid leave duration substantially (from 18 to 35 weeks). Unlike Austria’s case, the Norwegian extension (which was already fully paid leave) showed **little impact on total fertility** – mothers mostly took longer leave but did not have more children than they otherwise would have ([\[PDF\] FMLA Eligibility of Underserved Communities](#)). *Sweden* introduced a “daddy quota” (reserving part of leave for fathers) to promote gender equality; studies found mixed evidence on fertility – some couples had second children sooner if fathers took leave, but overall impacts on birth rates were minor. These cases highlight that **once a baseline of generous support exists**, further extensions or tweaks may yield **diminishing returns** in fertility terms. The strongest effects tend to come from policies that **markedly change the calculus for work–family tradeoffs** (as in Austria or Germany’s reforms).

Summary: Well-designed parental leave policies – especially those that **reduce mothers’ career sacrifices** (through job protection and wage compensation) – can causally **increase fertility**, often by encouraging an earlier next birth. Magnitudes range from a few percent (for modest unpaid leave) to double-digit percent increases in birth probabilities (for lengthy paid leave or high wage-replacement benefits) ([Does the Family and Medical Leave Act \(FMLA\) Increase Fertility Behavior?](#)) ([Does Parental Leave Affect Fertility and Return-to-Work? Evidence from a "True Natural Experiment" | IZA - Institute of Labor Economics](#)). These effects often manifest in **higher-order births** (e.g. a second child sooner) rather than producing many new first-time parents. Importantly, distributional aspects matter: generous paid leave mostly benefits and influences **middle/high-income couples** ([MergedFile](#)), whereas less-affluent parents may need additional supports (since unpaid leave or small benefits aren’t as useful to them). Finally, there is evidence that some leave policies mainly **shift the timing** of births without greatly changing completed fertility – however, certain incentives (like Austria’s) did lead to families ultimately having more children than they would have absent the reform ([Does Parental Leave Affect Fertility and Return-to-Work? Evidence from a "True Natural Experiment" | IZA - Institute of Labor Economics](#)). Robust causal designs (e.g. regression discontinuities around policy introduction dates) give us confidence in these findings.

Childcare Support and Fertility

High childrearing costs, especially for childcare, are a known barrier to fertility in developed nations. Thus, governments have expanded **subsidized childcare, preschool, and kindergarten** with the aim of both aiding working parents and potentially encouraging larger families. Causal research on **childcare expansions** generally finds **positive fertility effects**, particularly on completed family size, as affordable childcare reduces the economic and time burdens of an additional child () ().

- Universal Childcare Expansion (Germany mid-2000s)** – A pivotal study by Bauernschuster, Hener & Rainer (2016) examines a major German reform that **dramatically expanded public childcare slots for under-3-year-olds**. The rollout was staggered across municipalities from 2005 onward, creating variation in childcare coverage that the authors exploit in a difference-in-differences framework. Using birth register data, they find **robust evidence that increasing childcare availability led to more births** ([EconPapers: Children of a \(Policy\) Revolution: The Introduction of Universal Child Care and its Effect on Fertility](#)). Quantitatively, their estimates imply that a **10 percentage-point increase in childcare coverage raised the birth rate by about 1.2 births per 1,000 women ($\approx 2.8\%$ increase)** ([ba_he_ra_JEEA_preprint.dvi](#)). The effect was stronger for higher-order births: with 10 points more coverage, **second births rose by $\sim 3.9\%$ and third births by $\sim 7.5\%$** ([ba_he_ra_JEEA_preprint.dvi](#)). These are sizeable effects, indicating that as daycare became more accessible, many families (especially those who already had one or two kids) decided they could manage another child. The study carefully ruled out confounding factors like local economic trends, strengthening the causal interpretation ([EconPapers: Children of a \(Policy\) Revolution: The Introduction of Universal Child Care and its Effect on Fertility](#)). In sum, **universal childcare availability had a pronatal impact**, supporting the idea that reducing childcare constraints encourages larger families.

- Childcare and Preschool in Other Countries** – Other quasi-experiments corroborate the German findings. For instance, **Norway’s expansion of subsidized child care in the 1970s** (studied by Rindfuss et al. and by Havnes & Mogstad) primarily targeted maternal employment but also showed a small uptick in fertility, though not as pronounced as in Germany (likely because Norwegian fertility was relatively higher to start and informal care options existed). **Quebec’s \$5-per-day childcare program** (late 1990s) is known for boosting mothers’ labor force participation, but it also may have influenced fertility. While the initial evaluations (Lefebvre and Merrigan, 2008) focused on employment ([Child-Care Policy and the Labor Supply of Mothers with Young...](#)), demographic data showed Quebec’s fertility climbed from ~1.5 to 1.7 in the years after the program, diverging from the rest of Canada. This suggests a possible fertility increase, though causally attributing it to cheap childcare is complex (as Quebec also introduced other family policies). In **Italy**, expansions of public daycare in some regions have been linked to higher birth probabilities among working women, though identification is challenging in observational studies. **Overall, the strongest causal evidence comes from large-scale childcare rollouts**, like the German case, which demonstrate a **clear positive fertility effect** when childcare becomes more affordable and abundant ([ba_he_ra_JEEA_preprint.dvi](#)).

It’s worth noting one exception: a study by Bick (2016) found **no significant fertility change** from a smaller child care program in Germany ([The Introduction of Universal Child Care and Its Effect on Fertility](#)). That analysis may have been limited by **milder policy variation**. By contrast, the 2005 reform studied by Bauernschuster et al. involved a far larger increase in childcare slots, yielding detectable effects. This underscores that **policy scale matters** – modest childcare subsidies might not move the needle, but a **universal, subsidized system** can reduce the trade-offs enough to encourage additional childbearing.

Mechanisms: Cheaper or readily-available childcare primarily **reduces the indirect cost (time cost) of children**, particularly for mothers who want to remain employed (). By lowering the “price” of having an extra child (in terms of career interruption or childcare expenses), such policies shift the cost-benefit calculus. Couples who were hesitant about a second or third child often respond if they know affordable daycare is available. Importantly, studies like Bauernschuster et al. found fertility gains without evidence of **short-term “tempo distortions”** (no spike followed by dip) ([EconPapers: Children of a \(Policy\) Revolution: The Introduction of Universal Child Care and its Effect on Fertility](#)), suggesting childcare expansions can **sustain higher birth rates** rather than just hastening births. Distributionally, expanded public childcare tends to benefit **low and middle-income families** the most (they experience the greatest cost relief), which can also narrow socioeconomic fertility gaps (). Indeed, Hart et al. (2023) note that **childcare programs can reduce social inequality** in family outcomes even as they raise overall fertility ().

Other Indirect Supports and Reforms

Beyond the headline policies above, researchers have explored other interventions and economic factors that indirectly affect fertility: **health insurance expansions, housing policies, labor market conditions,**

and gender-equality initiatives. While not always designed as pronatalist, these can influence the decision to have children by altering family finances or work-life balance.

- **Health Insurance and Fertility** – Access to health care, especially reproductive and maternity care, might affect family planning. A notable example is the **Affordable Care Act (ACA) 2010** in the U.S. The ACA's dependent coverage provision allowed young adults (up to age 26) to remain on parental insurance. Abramowitz (2018) finds this **led to a reduction in fertility rates by roughly 5% among women age 20–25 in the first 3 years after the law** ([Evidence from Affordable Care Act Young Adult Provision](#)). The likely explanation is that improved insurance access facilitated **birth timing choices** – young women could delay childbearing and pursue education or careers, then “plan” pregnancies later under better circumstances (“Planning Parenthood” in Abramowitz’s terms). Indeed, the ACA change also increased use of contraception and shifted births to slightly older ages, without reducing overall lifetime fertility in early analyses. Another study of Massachusetts’ earlier health reform similarly found **no rise in birth rates**, but a higher share of births classified as “wanted” pregnancies (). Thus, while health coverage expansion wasn’t aimed at increasing births, its **short-run effect was to delay fertility** (fewer unplanned early births). This highlights that **social insurance improvements can sometimes reduce fertility in the short term**, as people gain security to postpone childbearing until it’s optimal.
- **Housing Affordability** – Expensive housing is often cited as a barrier to having children. Conversely, easing housing constraints might encourage births. In a unique **randomized experiment in Brazil**, families who won housing credit lotteries had significantly higher fertility: winning a home loan increased the probability of having a child by **~3.8% overall**, and by **22% among young adults (20–30)** (). While Brazil is not a “highly developed” country, this experiment underscores the principle that **alleviating housing and space constraints can boost fertility** (). In developed-country contexts, observational studies find similar patterns: e.g., in the U.S., rising home prices led homeowners to have more children (wealth effect) whereas renters had fewer (cost effect) ([Is lack of affordable housing causing a decline in fertility rates?](#)). Some governments have introduced housing benefits for families (e.g. subsidized family housing or priority for larger apartments), but rigorous causal evaluation in OECD settings is limited. Still, the evidence suggests **housing support** could be a tool to encourage fertility, particularly for young couples deterred by high rents or poor housing.
- **Labor Market and Gender Equity Reforms** – Policies that improve work-life balance may indirectly promote fertility. For instance, **flexible work hours**, protections for part-time workers, or anti-discrimination laws for pregnant employees could lower career penalties for parenting. While it’s hard to isolate their effects, macro-level analyses link **higher female employment compatibility** with higher fertility (e.g., Nordic countries). One causal micro-study from **Sweden** looked at fathers’ use of parental leave: when a reform reserved a month of leave for dads (use-it-or-lose-it), fathers’ increased involvement led to slightly higher likelihood of a second child in those families ([The effect of leave policies on increasing fertility: a systematic review](#)). The effect wasn’t large, but it hints that **gender-equal leave sharing** might encourage women to have another child by reducing the disproportionate burden on mothers. More broadly,

researchers (e.g. Goldscheider et al. 2015) theorize that greater male participation in childcare and housework is crucial for higher fertility in post-industrial societies () (). Causal evidence is still emerging, but supportive labor market institutions that make parenting compatible with careers (flex time, telework options, etc.) are believed to **facilitate higher fertility** by lowering opportunity costs ().

Summary: A variety of indirect factors can causally affect fertility. *Improving financial security* (via health insurance or housing) often leads to **delayed but possibly better-planned fertility** – which might increase births in the long run even if short-run rates dip. *Easing work-family conflicts* (through flexible work or egalitarian leave) can encourage childbearing, especially second births, by reducing the role incompatibility for working parents () (). While these mechanisms are harder to quantify, they complement the direct interventions discussed earlier. Policymakers aiming to raise fertility may need a **holistic approach**: combining financial incentives, childcare, and flexible work policies to effectively lower both the direct and indirect costs of children () ().

Synthesis of Findings and Policy Implications

Bringing the evidence together, several clear patterns emerge regarding the impact of fertility-enhancing interventions in developed countries:

- **Most interventions show *some* positive effect on fertility when evaluated with robust methods.** The “causal credibility” revolution in economics () has allowed cleaner estimates, generally confirming that policies like child benefits, paid leave, and childcare expansions **do increase birth rates**, albeit modestly in many cases. For example, **cash transfers tend to raise fertility on the order of a few percentage points to perhaps ~10%** in the short run ([Generous Child Benefits Can Increase Fertility – News & Research Highlights](#)) (), while **major childcare or leave reforms can yield up to 10–20% increases for targeted groups** ([ba_he_ra_JEEA_preprint.dvi](#)) ([MergedFile](#)). These effect sizes, though not huge, are meaningful in contexts of very low fertility (e.g. moving from 1.3 to 1.4 children per woman). Notably, no single policy is a silver bullet – but a combination can cumulatively improve the environment for childbearing.
- **Effects are highly context-dependent and heterogeneous.** Policies often have **stronger impacts on certain subgroups**. High-income, educated families respond more to wage-compensating incentives ([MergedFile](#)), whereas low-income families may respond more to direct subsidies or childcare (since they alleviate out-of-pocket costs). Age matters too: younger women might delay births if policies incentivize waiting (as seen in Poland’s 500+ and the ACA case) ([Cash transfers and fertility: Evidence from Poland’s Family 500+ Policy \(Volume 51 - Article 28 | Pages 855–910\) - Demographic Research](#)) ([Evidence from Affordable Care Act Young Adult Provision](#)), whereas women in their 30s might accelerate fertility before biologically nearing the end of childbearing. Cultural factors (e.g. norms about maternal employment) also mediate outcomes – for instance, Germany’s childcare expansion had a big impact in a context with previously scarce daycare and a norm of stay-at-home motherhood; in contrast, a similar

expansion in a country that already accepted working mothers might show a smaller jump.

Baseline fertility and existing supports set the stage: places with very low fertility and little support (e.g. East Asia, Southern Europe) might see larger relative gains from new policies, whereas Nordic countries with moderate fertility and extensive supports see more incremental changes () ().

- **Short-run vs. long-run effects (Tempo vs. Quantum):** A critical consideration in evaluating pronatalist policies is whether they **increase completed family size** or simply change the timing of births. Many studies noted **tempo effects** – policies often induce people to have children sooner (reducing birth intervals or age at first birth) ([Does the Family and Medical Leave Act \(FMLA\) Increase Fertility Behavior?](#)). This can temporarily boost period fertility rates. The key question is whether those births would have happened eventually anyway. Some evidence indicates genuine **quantum increases** (higher total number of children): e.g., Austria's extended leave led to more second children overall, not just earlier ones ([Does Parental Leave Affect Fertility and Return-to-Work? Evidence from a "True Natural Experiment" | IZA - Institute of Labor Economics](#)); Spain's baby bonus seemed to induce some births that might not have occurred otherwise (since a birth bust followed its removal) ([Generous Child Benefits Can Increase Fertility – News & Research Highlights](#)) ([Generous Child Benefits Can Increase Fertility – News & Research Highlights](#)). However, in other cases like the U.S. or Norway, the interventions mainly reshuffled timing. High-quality longitudinal studies are needed to confirm long-run impacts on completed fertility. So far, the **consensus** is that financial incentives and childcare can **modestly raise the number of children women have by end of reproductive years** (), whereas moderate leave policies mostly affect *when* those children arrive.
- **Policy design and magnitude matter:** Small incentives yield small effects. Many researchers conclude that to substantially raise fertility, supports must be **generous and broad-based** ([EconPapers: A 'Natural Experiment' on the Economics of Storks: Evidence on the Impact of Differential Family Policy on Fertility Rates in Canada](#)) ([EconPapers: A 'Natural Experiment' on the Economics of Storks: Evidence on the Impact of Differential Family Policy on Fertility Rates in Canada](#)). For instance, a token baby bonus might barely move the needle, but a sustained child allowance (like 500+ in Poland) or a large lump-sum (like Spain's €2,500 or Quebec's C\$8k) has a noticeable (if not revolutionary) impact ([Generous Child Benefits Can Increase Fertility – News & Research Highlights](#)) (). Similarly, a minimal extension of maternity leave (say from 12 to 14 weeks) is unlikely to change decisions, but offering a full year of paid leave can. There appears to be **diminishing returns** beyond a point – extremely large payments might not proportionally increase births once financial constraints are no longer the main limiting factor (people won't have *ten* kids just because benefits are generous, if other preferences and career considerations dominate) () (). Still, making childrearing materially easier through policy support is a necessary (if not sufficient) condition for higher fertility in rich countries.
- **Robustness and study quality:** The studies cited here employ rigorous designs (e.g. exploiting policy cutoffs, regional rollouts, eligibility criteria) to isolate causal effects. They typically include **robustness checks** such as checking for parallel pre-trends (in DiD studies), using control groups not affected by the policy, and testing for displacement or anticipation effects. For

example, the German childcare study checked that fertility trends were similar in high- vs low-expansion areas before the reform ([ba he ra JEEA preprint.dvi](#)); the Austrian leave study leveraged random assignment by birth date to ensure treated vs control mothers were comparable ([Does Parental Leave Affect Fertility and Return-to-Work? Evidence from a "True Natural Experiment" | IZA - Institute of Labor Economics](#)). These methods bolster confidence that observed changes in fertility are indeed due to the interventions, not confounders. However, some limitations remain – e.g., **external validity** (a result in one country may not fully generalize to another with different demographics or culture). Additionally, policies are often implemented as packages, making it hard to disentangle individual effects (Russia’s 2007 reforms, for instance, combined a birth grant with other supports) ([Estimating effects of 2007 family policy changes on probability of second and subsequent births in Russia](#)). Researchers attempt to address this by focusing on specific components or using designs that isolate one policy at a time.

In conclusion, **economic supports can and do influence fertility choices in developed countries**. The **strongest causal evidence** points to the effectiveness of **direct financial incentives** (cash transfers, tax credits) and **affordable childcare** in nudging birth rates upward () ([Generous Child Benefits Can Increase Fertility – News & Research Highlights](#)). **Paid parental leave** also has a positive impact, particularly when it substantially reduces the opportunity cost of childbearing for working women ([MergedFile](#)). While no single policy will likely raise fertility to replacement level in low-fertility societies, a mix of supportive measures can make a meaningful difference. Importantly, policymakers should set **clear goals** (e.g. **increasing first births vs additional births**) and tailor interventions accordingly: for example, childcare and flexible work arrangements might help persuade couples to have a second or third child, whereas targeted bonuses might encourage starting a family earlier. Ongoing research continues to refine our understanding of these mechanisms. Future studies with longer follow-up will tell us whether today’s interventions have lasting effects on completed fertility or mostly shift births forward in time. Nonetheless, the **body of causal evidence** reviewed here provides encouraging guidance that thoughtful family-friendly policies can **mitigate low-fertility trends**, and it offers quantitative estimates (e.g. a 10% childcare expansion $\approx$ 3% more births ([ba he ra JEEA preprint.dvi](#)), a \$1000 cash incentive $\approx$ 1–2% higher birth rate ([Generous Child Benefits Can Increase Fertility – News & Research Highlights](#)) ()) to inform cost-benefit analyses. Policymakers can draw on this evidence base to design more effective pronatalist interventions, keeping in mind the nuanced ways in which different supports translate into family growth.

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