

## everyday economics

### The Price of Motherhood

Ready to have a baby? You'll earn 10 percent more if you wait a year.

By Steven E. Landsburg

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Women agonize over the trade-offs between family and career. Now, thanks to [Amalia Miller](#), a young economist at the University of Virginia, there is a new and particularly vivid way to think about those trade-offs.

On average, [Miller has found in a new paper](#), a woman in her 20s will increase her lifetime earnings by 10 percent if she delays the birth of her first child by a year. Part of that is because she'll earn higher wages—about 3 percent higher—for the rest of her life; the rest is because she'll work longer hours. For college-educated women, the effects are even bigger. For professional women, the effects are bigger yet—for these women, the wage hike is not 3 percent, but 4.7 percent.

So, if you have your first child at 24 instead of 25, you're giving up 10 percent of your lifetime earnings. The wage hit comes in two pieces. There's an immediate drop, followed by a slower rate of growth—right up to the day you retire. So, a 34-year-old woman with a 10-year-old child will (again on average) get smaller percentage raises on a smaller base salary than an otherwise identical woman with a 9-year-old. Each year of delayed childbirth compounds these benefits, at least for women in their 20s. Once you're in your 30s, there's far less reward for continued delay. Surprisingly, it appears that none of these effects are mitigated by the passage of family-leave laws.

What is particularly interesting about professor Miller's findings is how she reached them. Her research is a model for how a clever economist tackles a particularly knotty problem. How does Miller know her findings are reliable? It would never do for her to simply compare the wages of women who gave birth at different ages. A woman who gives birth at 24 might be a different sort of person from a woman who gives birth at 25 and those differences might impact future earnings. Maybe the 24-year-old is less ambitious. Or worse yet (worse from the point of view of sorting out what's causing what), maybe the 24-year-old started her family sooner precisely *because* she already saw that her career was going badly.

So, professor Miller did something very clever. Instead of comparing random 24-year-old mothers with random 25-year-old mothers, she compared 24-year-old mothers with *25-year-old mothers who had miscarried at 24*. So, she had two groups of women, all of whom made the same choices regarding pregnancy, but some of whom had their first children delayed by an act of chance. That's a fairer comparison—and it confirmed the 10 percent earnings hit.

But the comparison was still imperfect. Maybe miscarriages and high wages have a

common cause—a propensity for risk-taking, for example. Miller noted that it appears that most miscarriages are not caused by risky behavior. Then she also performed the statistical equivalent of a second experiment. She compared 25-year-old mothers with those 24-year-old mothers who conceived while using birth control. Now you've got two groups of women, none of whom wanted to be pregnant at 24. Some became pregnant by chance, which gives us something like a controlled experiment.

Again, the experiment is imperfect. Getting pregnant while on birth control might be a symptom of carelessness, and carelessness can be a liability in the workplace. So, she tried yet again. She started with a bunch of women who all reported that they'd been *trying* to get pregnant since they were 23. Some succeeded at 24; others at 25. Insofar as those successes are random (or at least not caused by anything that also affects wages) we have yet a third controlled experiment.

None of these experiments—the miscarriage experiment, the birth-control experiment, and the "trying to get pregnant" experiment—is perfect, but all three point to the same conclusion. Three imperfect experiments still don't add up to one perfect experiment, but when they all give the same result, we can start to embrace that result with some confidence. In this case, the result is that early motherhood is not only *correlated* with low wages; it actually *causes* them.

That's largely what good empirical economics is about—finding thoughtful and creative ways to distinguish between correlation and causation. Whenever I write on an empirical topic, readers send me e-mail "explaining" that correlation and causation are not the same thing. When they read about a medical breakthrough, do these same readers write to science reporters "explaining" that lab results can't be trusted unless the test tubes are clean? Competent economists always address the causation/correlation issue, just as competent biochemists always clean their test tubes. Amalia Miller happens to have done it particularly well.

*Steven E. Landsburg is the author, most recently, of [Fair Play: What Your Child Can Teach You About Economics, Values, and the Meaning of Life](#). You can e-mail him at [armchair@troi.cc.rochester.edu](mailto:armchair@troi.cc.rochester.edu).*

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