A recent report said the U.S. birth rate has dipped to a record low level. But another measure of the nation’s fertility remains comfortably above its historic low. The mismatch shows that even in a country with comprehensive birth statistics, summarizing population trends is far from straightforward.

Last week, Pew Research Center said the birth rate last year fell to 63.2 per 1,000 women age 15 to 44. That’s the lowest level since at least 1920, the earliest year for which reliable data are available. The report made headlines and even spurred calls for Americans to get procreating lest they fall behind economically.

But the U.S. fertility rate, an estimate of how many children a woman will have in her lifetime, is well above record lows. According to the Population Reference Bureau, a Washington, D.C., research center, it fell in 2011 to just below 1.9 per woman, down from 2.12 in 2007—the highest in the last 40 years—but above a record low of 1.74 in 1976.

Demographers disagree on which measure is best for tracking births’ contribution to population growth. The distinction matters because birth trends are monitored closely. A record-low level of fertility could augur problems for future economic growth, while a slight drop from a 40-year high may have less serious implications—particularly because fertility often declines during economic slowdowns.

"Births are at a record low, but it's a much more complex story," said Brady Hamilton, a statistician at the Centers for Disease Control and Prevention’s National Center for Health Statistics. "The devil is in the details."
Simply computing a per capita birth rate is flawed, researchers say, as it is skewed by the age and gender structure of a population. A country with a disproportionately high share of older men could have a much lower birth rate than one with a large population of women of child-bearing age, even if women in each country have the same average number of children. Calculating the rate of births per women age 15-44, as Pew and the NCHS do, improves on the raw birth rate as it accounts for the share of the overall population most likely to have children. But the measure—called the general fertility rate by demographers—is still subject to quirks in the distribution of women in that age range.

A demographic blip that leaves a country with a population in which there are far more women in their 20s than women between 15 and 19 or between 40 and 44 could result in an artificially high general fertility rate, because in this case most of the women in the 15-to-44 range are in their peak years of child-bearing.

That is what many demographers said happened in the U.S. in the 1980s. Women in their 20s made up a disproportionate share of the 18-44 female population—over 38% in some years, compared with under 31% a decade ago and about 34% now.

Some researchers prefer a measure known as the total fertility rate. To truly calculate how many children that women born in one year will, on average, bear in their lifetimes requires waiting decades, until they've all reached menopause. Instead, researchers assume today's trends will apply. So if a hypothetical group of women has today's birth rate at age 15, and again at 16 and so on, how many children, on average, will each one give birth to? This evens out fluctuations in age distribution, and is preferred by researchers projecting population trends, under the thinking that this fertility rate is likely to remain more stable.

But this measure has drawbacks. Imagine a society where women now in their 30s all had children in their 20s and then stopped, while today's 20-somethings plan to wait until their 30s and then have just as many children as the prior generation. This would mean neither group is having many children today—a shift that would artificially drive down the total fertility rate. Yet both groups will end up with the same number of children.

This is what some researchers say may have made fertility rates in some European countries look lower than they really were in the 1990s. Younger women, who were entering the workforce in growing numbers and had more ability to plan pregnancies due to widespread contraception, were planning to have children later.

Whether the U.S. is experiencing record-low fertility or a gentle dip matters in determining the severity of the decline, and the likelihood that fertility could bounce back.

John Bongaarts, vice president of the New York-based Population Council, a research group, said fertility is hard to predict, as so many factors it depends on are, too—such as the economy. “Around 2005, very few demographers predicted the decline that has happened in the past couple of years” in fertility rate, he said, since most economists didn’t expect an economic crisis.
But a full recovery won’t necessarily revive fertility. "The decision about fertility is one that will continue to be about individuals," said Jose Miguel Guzman, chief of the United Nations Population Fund’s population and development arm, and about how they "see the future—the possibility to have a house, a job, to send kids to a good school."

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A version of this article appeared December 8, 2012, on page A4 in the U.S. edition of The Wall Street Journal, with the headline: Measuring How Births Swell the Population Isn’t Child’s Play.
My print column examines the divergence between stories told by two measures of U.S. fertility. The general fertility rate, or births per 1,000 women age 15 to 44, indicates U.S. fertility is at record-low levels. The total fertility rate, an estimate of how many children the average woman who lives through all her child-bearing years will have in her lifetime, puts current fertility rates well above record-low levels in the 1970s.

The first can be skewed by unusual distributions of the female population among the ages 15 to 44. The second is hampered by its synthetic nature: It is based on the assumption that today's age-specific fertility rates will carry forward into the future. Both, demographers say, are preferable to the crude birth rate, or per-capita births, which can be skewed by unusual gender ratios or an atypically old or young population.

"The crude birth rates might be distorted because of the age structure," said John F. May, a demographer and visiting fellow at the Center for Global Development, a think tank in Washington, D.C.

However, in some countries crude birth rates are the only numbers available, said Brady Hamilton, a statistician at the Centers for Disease Control and Prevention’s National Center for Health Statistics. “These different measures reflect the availability of information,” Hamilton said.

"The birth rate and general fertility rate are much easier to measure because you don’t need to know the ages of the women having children, just how many babies and how many total people or women," said Philip N. Cohen, a sociologist at the University of Maryland, College Park. “So sometimes we use them for historical trends and comparisons.”

"Each rate adds an additional element of refinement," said Mark Mather, associate vice president of domestic programs at the Population Reference Bureau, a Washington, D.C., research center.

"Each of the demographic rates has advantages and disadvantages, and none gives a complete picture," said Michael S. Teitelbaum, a demographer and a Wertheim Fellow at Harvard Law School.

For instance, the general fertility rate is at record-low levels now in part because it was inflated in the 1980s, some demographers say. “In the 1980s, the birth rate and general fertility rate were spuriously inflated relative to underlying fertility behavior because baby boomers were in the middle of their childbearing years," said Samuel Preston, a demographer at the University of Pennsylvania. “This bias is now absent.”

"Some of what you’re seeing is an age-distribution effect, not a fertility effect," said Thomas J. Espenshade, a sociologist at Princeton University.
There are flaws, though, with the total fertility rate, mostly arising from its application of today’s fertility rates to future child-bearing decisions. “Many non-experts misinterpret it as a measure of the number of children actual cohorts of real women are bearing,” Teitelbaum said. “But it is not that — it’s a hypothetical or synthetic rate.”

Pew researchers point to such flaws as reasons for relying on the general fertility rate in making last week’s announcement. “It is subject to biases created by changes in timing,” said Gretchen Livingston, a senior researcher at the Pew Hispanic Center.

One example: When a generation of women defers having children to a later age than the prior generation, that can create a temporary dip in fertility rates, even if the younger women eventually have as many children as the prior generation. “In Southern Europe, the rise in the age at first birth has been dramatic, and the decline we observed in the 1990s and early oughts [in fertility] is probably artificial and fertility will ultimately turn out to be a little higher than it looks,” said Nan Astone, a sociologist at Johns Hopkins University’s Bloomberg School of Public Health.

Deferment in the recent economic uncertainty may also explain the drop in U.S. birth rates. “I would not over-exaggerate the recent fluctuations in fertility,” said Mikko Myrskyla, a demographer at the Max Planck Institute for Demographic Research in Rostock, Germany. “It is possible that much of the decline is people postponing fertility because of economic uncertainty — especially younger people.”

Added Jose Miguel Guzman, chief of the United Nations Population Fund’s population and development branch, “We need to be cautious in terms of interpreting this as having a long-term trend. We don’t know yet if this will be a long trend or if it is the effect of postponing birth because of the crisis.”

Both fertility measures, and other factors, are used to project future population counts. “On the one hand, the number of births is the best estimate for future population, which will be made of people currently being born and immigrants,” said Laurent Toulemon, a researcher at the French National Institute for Demographic Studies. “On the other hand, the long-term population prospects are based on projection of fertility rates by age. But the future population will also depend on current population structure.”

Population projections have a mixed record. Stubbornly high U.S. fertility rates have confounded past projections. In 1988, the Census Bureau projected population growth of under 40 million, to 283 million, by 2010, based on what the agency considered the most likely levels for future fertility. When the time came, the decennial census counted nearly 309 million Americans.

“In many cases, we can predict the short term, but the medium and long term have been difficult,” Guzman said.

Teitelbaum said that if anything, projections have gotten harder in developed countries with widespread availability of contraceptives. “This is due to the fact that nearly all women now can, if they wish, exercise voluntary control of their fertility,” Teitelbaum said. “This means not only that they can control their ultimate family size, but also can control the timing of those births depending upon circumstances as they change over time.”

One source of uncertainty in projecting from today is the extent to which the recent economic downturn is responsible for the concurrent decline in fertility. Opinion is divided on how much economic trends influence fertility, and will in the future. “It is possible that economic recessions and recoveries may have
some influence on the fertility rate in the future, but they are far from the only important factor," said Adrian E. Raftery, a statistician at the University of Washington.

However, Diane J. Macunovich, an economist at the University of Redlands, said of the recent fertility decline, "I definitely ascribe a good part of it to the recession, because of its depth and duration — especially the latter, and its effect particularly on the immigrant population."

"I'd argue that there were tell-tell signs for quite some time," said University of Pennsylvania demographer Hans-Peter Kohler, "that the current recession is going to have a negative effect on U.S. fertility rates."

Opinion is also split on where fertility goes from here. "We would predict that after a full recovery, fertility would bounce back because we have not seen a change in the number of children women report that they ultimately would like to have," said Sam Sturgeon, the president of Demographic Intelligence, a firm that forecasts fertility. "There just appears to be a delay."

Raftery also didn't expect a long-term decline: "Our work on probabilistic fertility projections indicates that fertility rates do fluctuate somewhat randomly on a short-term basis. We would not expect the decline to continue for a very long time or to be too deep."

"I think it has shocked people to see downward shifts in childbearing and marriage rates linked to the recent recession," said Brookings Institution demographer William H. Frey. "I do think this is temporary because of the ideal of having children by many in this country."

Mather, though, isn't sure to what extent fertility will recover. "I would expect to see the fertility rate bounce when the economy improves but there are longer-term, non-economic factors at work such as the rising age at marriage and increases in education that could lead to further declines in fertility down the road," Mather said.

W. Bradford Wilcox, a sociologist at the University of Virginia, sees indicators suggesting "that U.S. fertility rates will remain comparatively low unless and until we have a robust recovery that integrates young adults fully into the economy, and gives them a sense of economic hope for the future. If this doesn't happen, then I fear we may be headed towards a more European pattern of low fertility."
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