Baby Boom

FERTILITY RATES
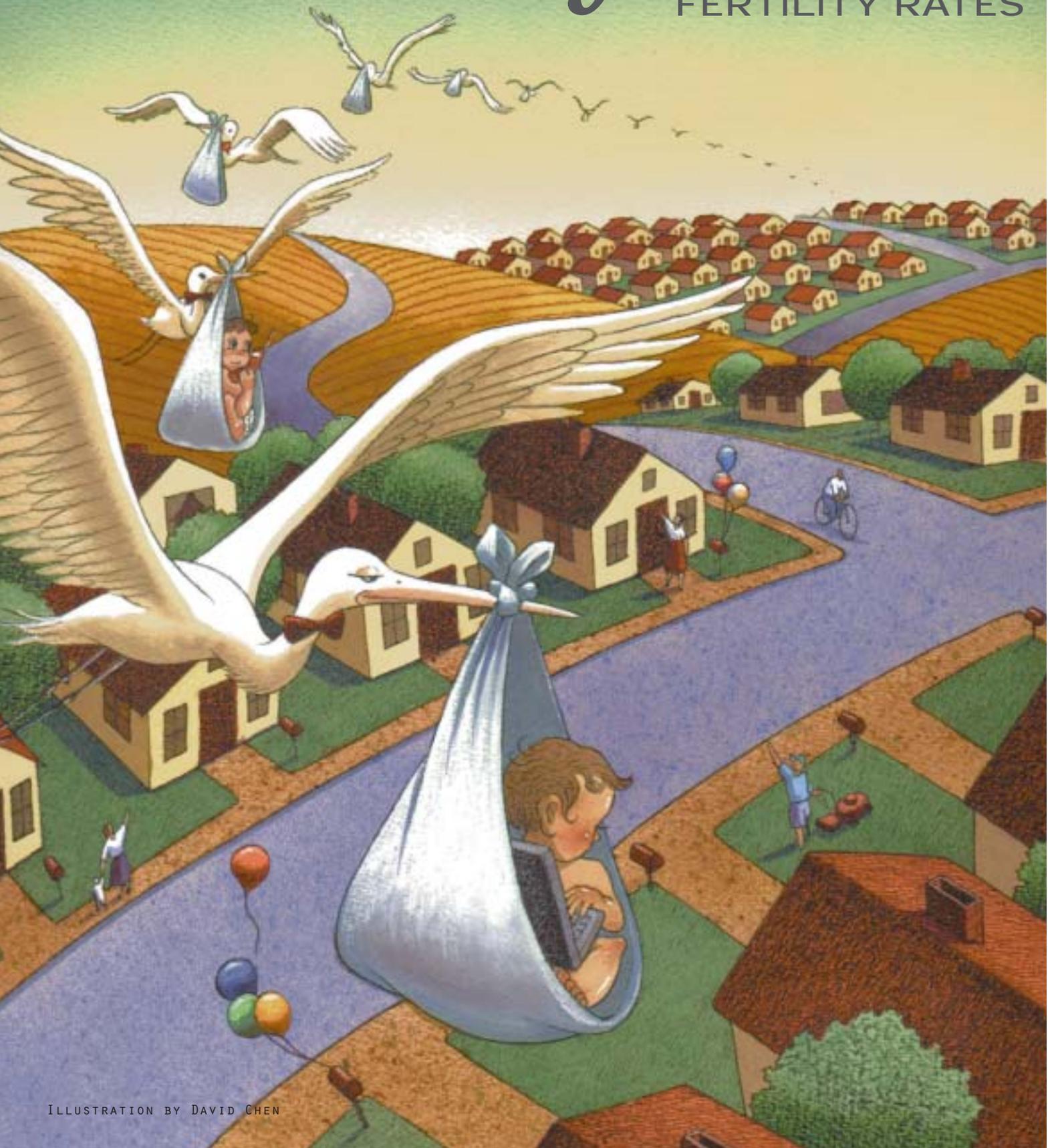
and Baby Bust

AND WHY THEY VARY

By Robert L. Brown

Fertility rates vary not only from country to country and from time to time; they can be affected by economic and social factors as well.

T RENDS IN FERTILITY are rated as the most difficult of the demographic variables to project (others being immigration, emigration, mortality, labor force participation, and ages at certain vital events such as marriage). And while fertility rates are extremely difficult to project and predict, they usually represent the most important modeling variable in any population model. These models, in turn, are of critical importance to many users, including social security actuaries who must use these data to project future benefit/contribution cost ratios.

A fertility rate is a measure of the average number of children a woman will have during her lifetime (obviously limited to her childbearing years). In most countries, three general demographic trends have been observed: reductions in infant mortality, increased life expectancy, and decreasing fertility rates.

Over the past 30 years, the average number of children born to women in less developed countries fell from 6.2 to 3.0—an enormous and rapid decline—but still above the demographic "replacement" level that equates to a fertility rate of 2.1.

Europe's fertility rate has dropped to 1.42, Japan's to 1.43, and Canada's to 1.51. Spain has the world's lowest fertility rate at 1.15, followed by Italy at 1.20. Experts state that never have fertility rates fallen so far, so low, so fast, for so long all over the world. They predict that Europe will lose at least 100 million of its population by the middle of this century as death rates exceed birth rates.

However, fertility rates are still very high in some of the developing nations of Africa, the Middle East, and Asia. For example, the fertility rate in Nigeria is 5.2 and in Pakistan it's 5.3.

One country that doesn't fit comfortably into these patterns is the United States. While U.S. fertility rates dropped from their (recent) peak of 3.77 in 1957 to 1.85 in the mid-1980s, the U.S. fertility rate has since climbed to 2.03, which is just barely below the demographic "replacement rate."

What explains these remarkable trends?

Economic Theories of Fertility Rate Trends

Richard Easterlin (1987). Easterlin postulated that fertility rates do, and would continue to, rise and fall with a cycle of two generations or about 40 to 50 years (peak to peak or trough to trough). He explains that members of small birth cohorts (when fertility rates are low) will have an easier time entering the job market, achieving good wages, and getting promotions. In contrast, those in large birth cohorts (when fertility rates are high) will have problems that can be seen as the mirror image (difficulty in entering the labor force, lower wages, and slower promotions).

Those members of the smaller birth cohorts who achieve a higher standard of living sooner will marry sooner, will have their first child sooner, and will ultimately have more children in total.

Twenty years later, this new larger set of birth cohorts will find it harder to achieve the same standard of living and will marry later, have their first child at an older age, and ultimately have fewer children.

Easterlin combines the above theory with a "Relative Income Theory." This states that people feel well off (or not) by comparing their actual earnings to their material ex-

pectations, the latter of which are a function of their parents' income. Thus, the "Depression babies" formed a series of small birth cohorts with low material expectations. They found jobs easily and were soon earning more than their parents. Thus, in the 1950s it was easy for one spouse to stay home and have children.

The later baby boomers and generation X found the opposite. Jobs were hard to find and promotions few. Compared to their parents they didn't feel well off. So they became two-earner households and had fewer children.

While Easterlin's theories seem to explain the U.S. fertility trends to a great extent, the theories don't fully explain the continued fall in fertility rates in the rest of the industrialized world.

Diane Macunovich (1996). Easterlin's theories assume that females play essentially a passive role in the fertility patterns. Macunovich, on the other hand, adds a factor to the basic Easterlin model that accounts for the female wage impact on fertility.

Over the past 50 years, women have obtained higher levels of education, entered the labor force in increasing numbers, and achieved independent monetary resources. Macunovich believes that while an increase in a male's relative income (versus his material expectation) will cause a resultant rise in fertility rates, an increase in a female's relative income will produce downward pressure on fertility.

These contradictory indications, therefore, need to exist in any successful theory of fertility rate movement.

Butz and Ward (1977). The theories of William Butz and Michael Ward include three critical factors: the proportion of women in the labor force, women's earnings, and men's earnings. As analyzed previously, fertility rates are positively correlated to men's earnings but are negatively correlated to women's earnings.

During recessions, when family income is lower, couples will have fewer children because of the high direct costs associated with childbearing. However, economic prosperity may not automatically bring higher fertility rates if women's labor force participation rates rise.

The Butz and Ward model states that times of economic prosperity are the most expensive times for employed women to have children. For women in the labor force, there will be a delay in childbirth and fertility rates can actually decrease.

In summary, Butz and Ward explain that fertility rates are positively related to family income and negatively associated with women's employment and wages. The correlation between women's wages and fertility is stronger the larger the proportion of women employed.

John Ermisch (1983). Ermisch's theory distinguishes between women who work and those who do not.

Ermisch explains that as more females choose to work most of their lives, the average age at first birth increases and the in-

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tervals between births decrease. In particular, women employed in professional positions tend to wait longer between marriage and the birth of their first child.

In single-earner households (with only a male wage earner), if the male wage rises rapidly and the cost of children remains constant, that family will have more children.

For two-wage-earner families, however, where the wife has to leave the work force or interrupt a career path to have children, the opportunity cost of having children is high. A child would demand more of the couple's time and lower the family's income due to the loss of the wife's earnings. When the number of females in the labor force increases, fertility tends to decrease even during times of economic growth.

Ermisch also found that the increased probability of divorce may keep the fertility rate down.

Social Causes

Race: U.S. readers will be interested in the racial breakdown of the current total fertility rate of 2.03. For different racial subsets, the corresponding fertility rates are: Hispanic—2.75, black—2.05, white (non-Hispanic)—1.84, and Asians—1.84. Note that *all* of these fertility rates exceed those now being experienced in Canada and Western Europe. Also, while the black fertility rate has declined significantly over the past 20 years, blacks still tend to have their children at earlier ages than whites.

Education: A woman's education is a critical element in explaining resultant fertility rates and movements. Higher female education is universally associated with lower and delayed fertility. Higher female education, however, is also positively correlated with the probability of the child's survival.

In a somewhat similar fashion, one finds higher fertility in rural areas (especially where this makes education more difficult) than in urban areas. This may also reflect differential access to family planning information.

Evidence shows that fertility declines as a country's population becomes more urban and as women become more highly educated. In Jordan, for example, women with no formal education had a fertility rate of 6.9, while those with secondary school or higher education had a fertility rate of 4.1.

Religion: In places where religion has an influence on fertility, that influence can be strong. For example, Italy and Spain are both countries with a high percentage "Catholic" population. Historically, this would have led to an expectation of elevated fertility. However, Spain and Italy have the two lowest fertility rates in the world. Thus, one must conclude that religion is not as influential in these countries as was the case historically.

As another example, the United States is now a more "religious" country than Canada. About 34 percent of U.S. women of childbearing age practice their religion on a weekly basis, which is almost double the 18 percent proportion in Canada. Greater religious observance tends to go along with higher marriage rates and lower divorce rates. This tends to result in high-

er fertility rates because people expect to stay in a more stable relationship and are, therefore, more likely to have children.

Muslim communities around the world tend to have higher fertility rates than in the surrounding communities. Albania, with a Muslim majority, has the highest fertility rate in Europe at 2.4. In Malaysia, the Muslim community experiences higher fertility than the Indian or Chinese communities.

Use of Contraceptives: The use of contraceptive devices has increased rapidly over the past 50 years, except in Africa. Also, methods of contraception are more reliable. This helps couples in their family planning. However, in many parts of the world, there still exist obstacles to family planning and to contraceptives.

Tsui, Bogue, and Hogan at the University of Chicago (1978) found that there is an inverse relationship between a couple's level of contraceptive knowledge and the couple's desired family size. Couples with small desired family sizes achieve their goals through a high knowledge of the use of contraceptives.

Belanger and Ouellet, with Statistics Canada (2001), found that family planning services and methods of contraception are more widely available in Canada than in the United States. This may explain part of the resultant fertility differential.

Urban women use contraception more than rural women. The fact that there are more people living in rural areas, with no formal education, in the least developed countries explains at least partially the enormous discrepancy between fertility rates in those countries and those with higher levels of urbanization and female education.

Abortion: The use of contraception and abortion facilitates the prevention of unwanted pregnancies and the planning of desired births. Therefore, a less effective contraceptive method implies a higher risk of unwanted or unplanned pregnancy. This, in turn, means greater use of abortion or more unwanted births.

The total abortion rate has consistently been higher in the United States than in Canada over the past 25 years. Nearly half of all pregnancies (49 percent) in the United States in the early 1990s were unwanted. Approximately half of those ended in abortion.

The proportion of unplanned or unwanted pregnancies was much larger in the United States than in other countries—approximately 60 percent higher than in Canada, Belgium, or Sweden, more than double the proportion in the United Kingdom, and five times higher than in the Netherlands.

Other Social Factors: While birth "out of wedlock" has increased in both Canada and the United States, the majority of births still take place within marriages. Compared with Canadian women, U.S. women tend to marry in greater proportions and tend to do so at an earlier age.

Increasing divorce rates destabilize the institution of marriage and cause the fertility rate to drop.

Further, voluntary childlessness is increasing. Some couples simply don't want children or at least want fewer than in the past. This has contributed to falling fertility rates in many countries.

Another trend in many countries is that the age at marriage is increasing. This means that women simply don't have as much time to have their children.

Canadian women marry later and have their first child later than U.S. women. More Canadian women live in extended common-law relationships (with lower fertility) than do U.S. women.

In 1999, the mean age of childbearing for first births in Canada was 28.7 years while it was 24.7 in the United States. Similar differences in age continue for second and third births.

Finally, it has been calculated that 30 percent of the difference observed in the total fertility rates of Canada and the United States is the result of higher fertility among U.S. teenage girls. No other industrialized nation has teenage fertility rates as high as those observed in the United States. The fertility rate of U.S. teenage girls is more than double that in other industrialized countries, including Canada, and 10 times greater than in Japan and the Netherlands. The vast majority (87 percent) of teenage pregnancies in the United States are unwanted.

Conclusion

Obviously, myriad factors can and do affect fertility rates. Some are economic in nature, others are more social.

Clearly, however, couples have more control now over how many children they want to have and when they want to have them. Many families are choosing to start their families later. This may be due to economic difficulties or the growing fragility of conjugal relationships. Having postponed the birth of a first child, however, delays all childbearing, which often results in a smaller number of children than desired. This, in turn, is a partial explanation of generally falling rates of fertility in industrialized countries, with the United States being a notable outlier. ●

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