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Is Low Fertility a Twenty-First-Century Demographic Crisis?*

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Abstract

Nearly half of the world's population in 2000 lived in countries with fertility rates at or below replacement level, and nearly all countries will reach low fertility levels in the next two decades. Concerns about low fertility, fertility that is well below replacement, are widespread. But there are both persistent rationales for having children and institutional adjustments that can make the widespread intentions for two children attainable, even in increasingly individualistic and egalitarian societies.

Like many demographers of my generation, I was attracted to demography by *The Population Bomb* (Ehrlich 1974), *The Limits to Growth* (Meadows et al. 1974) and *The Tragedy of the Commons* (Hardin 1968), the neo-Malthusian classics. The crisis was high fertility and the resulting rapid population growth. The population crisis was dire, seemed intractable, and afflicted the poorest countries.

But an ongoing global fertility transition has made population stabilization by the middle of the twenty-first century a reasonable forecast. Stylized versions of these fertility transitions posit shifts from high to low fertility, with fertility rates eventually oscillating around replacement level. However, observed declines show the total fertility rate (TFR) slicing below replacement levels with little resistance, and many are skeptical about its recuperation (e.g., Lesthaeghe and Willems 1999).

Herein lies a potential demographic crisis: the dynamics of population decline mirror those of population increase. Halving times mirror doubling times, and population momentum can be negative as well as positive (Lutz, O'Neill, and Scherbov 2003). The social problems associated with low fertility are also mirror images of those associated with high fertility: women now have fewer children than they want (see, e.g., Hewlett's (2002) high-profile book about the personal crises of unintended childlessness), and women have children at late ages, with some questioning whether they should have delayed childbearing (e.g., Wolf 2001). At the aggregate level, dramatic population aging threatens the solvency of programs for the old, and country-level population decline could soon become a common reality (Demeny 2003).

But I'm getting ahead of my story. Below, I review the dramatic, ongoing global spread of low fertility. Then I turn to the heart of my argument, which acknowledges the inevitability of low

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fertility but not of very low fertility. Finally, I answer the question posed in my title: is low fertility a twenty-first-century crisis?

Emerging Global Low Fertility

Table 1 shows a year-2000 snapshot of the global fertility transition based on data from the United Nations (United Nations Population Division 2002). Each of the following observations are important and dramatic:

1. The United Nations (U.N.) lists only 16 (of a total of 187) countries as *not* showing clear evidence of a fertility transition (see column 1). Lingered high fertility has become geographically isolated and affects fewer of the world's countries and people. Only 3% of the global population now lives in countries not yet in fertility transition. The U.N. projects that all these countries will soon begin a transition.
2. At the other extreme, there are 64 countries with fertility at replacement level or lower. Twenty-three countries recently made the transition to low fertility (see column 4), and another 41 countries have had several decades of low fertility punctuated by a baby boom and bust (see column 5). Together, approximately 45% of the world's population now lives in countries with low fertility.
3. Between these extremes, 105 countries are said to be experiencing fertility transitions (see columns 2 and 3) because empirical evidence shows that once begun, these declines do not stop until fertility reaches replacement level or below (see Bongaarts and Watkins 1996). For 96% of these 105 countries in transition, their most recent estimate is their lowest recorded fertility.¹
4. Only two countries have halted their transition at a fertility level that is substantially above replacement (at TFRs of 2.5 to 3.0). Others with currently high TFRs could do so, but evidence clearly suggests that arrested declines will be rare.

Thus, these data and U.N. projections portend a remarkable achievement. In a few decades, high fertility will likely be of historical interest (Bongaarts and Bulatao 2000; United Nations Population Division 2003a).²

Replacing a focus on high fertility, concerns about very low fertility have already arrived. Table 2 shows TFRs for six countries. The lowest observed TFRs, for countries like Spain and Italy, provide an empirical basis for concerns about population decline. Fertility in a number of countries is well below replacement. As an example of the consequences of such low fertility, the U.N. projection of the Italian population to 2050 (with only a modest increase in its current fertility of 1.2 to 1.35, the U.N. low-variant estimate) produces a 30% decline in total population. Figure 1 shows the projected 2050 age distribution. The old-age dependency burden implied here is dramatic. Such pervasive low fertility and rapidly aging populations could be cited in constructing low fertility as a major twenty-first-century crisis. But there are exceptions to very low fertility; the United States is the most obvious exception. Also note that the higher fertility of the United States cannot be attributed solely to its minority populations. Non-Hispanic whites have a TFR of 1.84, a high fertility level by European standards.

¹Calculations are from United Nations Population Division (2000: tables I.3–I.6).

²The United Nations Population Division (2003a) forecasts the TFRs of the 49 poorest countries to be low but above replacement level. For these countries, the forecasts are for TFR levels between 2 and 3 in 2050, with the medium variant of approximately 2.5. Thus, fertility is not forecast to be at replacement level or below for all countries.

Is Very Low Fertility Inevitable?

Some evidence and arguments suggest that very low fertility is inevitable. For example, in his presidential address, Bumpass (1990) argued that secular trends producing family change, and an imbedded fertility transition, had not run their course. Commenting on classic arguments about family change (e.g., Goode 1963), Bumpass argued that "...the theoretical perspectives of a half-century ago were essentially correct" (p. 483). These theories linked modernization and family change and had essentially two components: a structural component and an ideological one. The structural component acknowledged the changed circumstances of industrial (and postindustrial) economies, which increased the cost of children. Of special importance was the incompatibility of work and familial obligations for women. Citing not only this earlier work but also the contemporary work of Lesthaeghe and colleagues (Lesthaeghe 1983; Lesthaeghe and Surkyn 1988), Bumpass argued that this structural change was accompanied by ideologies that stressed that individuals should assess these costs and act in their self-interest. Bumpass concluded that "there is no reason to think that these processes are exhausted or are likely to reverse" (p. 493).

Another view is that a future with very low fertility is much less certain. I assign this view the title from Campbell's (1974) presidential address, "beyond the demographic transition." Campbell focused on a demographic surprise: the baby boom. This baby boom and subsequent bust called for explanation distinct from the secular decline in high-parity births. An adequate explanation, focusing on the United States, follows from Ryder's (1980) decomposition of trends in the baby boom and bust. Ryder's analysis isolated the dynamic components of change as the timing and number of low-parity births. I argue that by moving beyond the demographic transition and focusing on low-parity births, one can anticipate a floor on low fertility and better understand low-fertility trends and differences. From this view, very low fertility is not inevitable. Of course, this is very different from saying it will never be observed.

To argue against the inevitability of very low fertility, I will first emphasize the distinction between low- and high-parity births and stress that motivations remain for low-parity births. Second, I will suggest that institutional adjustments are possible that would make having small families compatible with contemporary developed-country settings.

Low- Versus High-Parity Births

The distinction between first and second births and higher-order births is crucial. In economically advanced contexts, 75%–90% of births are first or second births. Trends in this direction are long term—secular fertility declines have resulted from a move to small families, not to "no families." Without such a distinction between low- and high-parity births, one might reasonably assume that the average family size could decline to zero. Children are costly in modern contexts: the fewer children one has, the better, and having no children is the best. However, there have not been large increases in the proportion of women who intend to have no children. In fact, the proportion of women who intend to have two children is dominant in most developed countries (Bongaarts 2002).

One explanation for this pervasive intention to have two children comes from studies of the value of children, which have shown that the rationales for having first and second children differ from those for higher-order births. Using data from the mid-1970s for the United States, the Philippines, and South Korea, Bulatao (1981) showed that across contexts, first children were desired for affective reasons, such as to have a child to love and care for, to carry on the family name, and to bring spouses closer together. Second children were rationalized as "family building"; to provide a sibling for the first child was especially important. Also, second and third births were frequently desired for balancing the sex composition of the family.³ Higher-order births served primarily economic functions. Bulatao suggested that higher-parity births

declined because the rationales for them were undermined by socioeconomic change, whereas factors motivating first and second births were not.

Furthermore, an important ideological shift has encouraged parents to focus attention on just a few children. At the heart of this change is the notion that each child is unique and deserves substantial parental investment, including purchased resources and parental time and attention. Being a good parent is now largely inconsistent with having more than a small number of children. Blake (1972) argued that in the 1960s, there were not strong norms against having large families. This has changed: large families are now viewed as inconsistent with good parenting. Because of this ideological change, low fertility coexists with strong and pervasive desires to be a parent.

Clearly, there have been other relevant ideological changes. A major argument for the continued decline of fertility below replacement levels points to powerful trends toward individualism and self-actualization. But are these trends inevitably antinatalist? Giddens (1991) theorized wide-ranging effects of the rejection of the traditional structured life course. People now have great flexibility in how they structure their lives, making it difficult to find standards against which to judge their own progress or success. Achieving identity through a coherent “narrative of the self” is always a work in progress. Raising a child can bring predictable routines to daily life that promote well-being and provide continuity to one’s “narrative” (see Friedman, Hechter, and Kanazawa 1994; King 2000; Morgan and King 2001). In short, beyond adolescence and young adulthood, parenthood may provide a powerful source of connectedness and meaning.

Thus, parenthood can be constructed as a response to increased individualism and self-actualization. Furthermore, greater individualism may undermine traditional constraints on fertility. For instance, continued secularization and individualism could undermine norms against nonmarital childbearing and against parenthood by gay couples. Currently, all western countries that approximate replacement-level fertility have significant levels of nonmarital childbearing (Rindfuss, Guzzo, and Morgan forthcoming).

My final point may be more controversial. I believe that biological predispositions reinforce the desire for parenthood, especially the affective reasons for having children (that parents fall in love with their children), and the willingness of parents to have fewer children to increase their children’s life chances (see Lam 2003). It is true that biological predispositions don’t “cause anything.” As Pinker (1997,2002) noted, genes associated with risk taking don’t make people take risks, but they do increase the pleasure sensation resulting from things like jumping out of a plane or driving fast. Likewise, neural circuitry producing a warm glow when parents hold their helpless, big-eyed infant didn’t make them have that baby, but it does help them to fall in love with the baby. In fact, love may be the root of altruism toward one’s children. Hrdy (1999) asserted that maternal attachment is conditional, as evidenced most strongly in the coevolution of babies to extract maternal commitment. In short, having few children and heavily investing in them “fits” well with our evolutionary inheritance and, thus, with the neural wiring in our and our children’s brains.

In sum, even “large families” in the twenty-first century will be small. Nevertheless, motivations and rationales for first, second, and (sometimes) third children remain relevant in modern contexts. Ideological change, psychological needs, and biological predispositions buttress these motivations and rationales.

³Moves toward gender equality may be undermining the importance of balancing the sex composition of the family (Pollard and Morgan 2002).

Institutional Adjustments

The second stage of my argument against the inevitability of very low fertility is that institutional adjustments can make small families feasible in the twenty-first century. Social contexts can support or thwart desires for children. My argument is not new. At the heart of demography is the decomposition of change into that owing to distributional shifts and to changing rates. A common way to think about future trends is in terms of secular change in the distributions (e.g., age or educational distributions) while other distribution-specific rates stay the same. This is a useful counterfactual, but one frequently counter to fact. For example, Preston (1984) noted the increasing proportion of elderly and a decreasing proportion of children over the 1960–1980 period. Such changes (given a Malthusian, fixed-resource constraint) should have advantaged the young and disadvantaged the old. Instead, predictable changes across time in the sizes of America's dependent groups (children and the elderly) were trumped in importance by institutional responses. Key in Preston's account were public policy decisions to provide collectively for the medical care and income maintenance of older persons while maintaining a benign neglect of children.

Let's take this as a template for thinking about the importance of institutions and institutional responses. At the heart of most explanations of recent changes in family and fertility are the changing roles of women and their movement into the labor force. A straightforward application of distributional shifts and constant rates projects lower fertility with greater female labor-force participation.

Rindfuss, Guzzo, and I (forthcoming) showed such an association in cross-sectional data for 22 countries in the Organization for Economic Cooperation and Development (OECD) with multiple decades of low-fertility experience (see Figure 2; the data in the figure are for 1960, but the data for 1950 and 1970 produce the same result). This negative cross-sectional association makes perfect sense when fertility is relatively high. High fertility is incompatible with women's nonfamilial work in most observed or likely contexts.

In contrast, many of us who have studied fertility over multiple decades find the scatterplot for 1990, shown in Figure 3, remarkable. By 1990, fertility was much lower than in 1960. But the anomalous finding is the reversal of the country-level association between female labor-force participation and fertility: the negative association is now strongly positive.

Figure 4 plots the simple correlation coefficient, calculated year-by-year, between the TFR and female labor-force participation. This graphic reveals that the previous scatterplots shown in Figures 2 and 3 characterize a dramatic change from a strong negative association to strong positive one.

An adequate explanation for this change requires a move away from cross-sectional analysis. Let us compare two countries that typify this change: the United States, which had the highest 1997 TFR among the 22 OECD countries we examined (Rindfuss et al. forthcoming), and Italy, which had the lowest. As Table 3 shows, both countries have over two decades of replacement-level or lower fertility experience, and both countries experienced increases in female labor-force participation that averaged 0.4% and 0.5% per year in Italy and the United States, respectively. Over this period, the U.S. TFR was insensitive to increasing female labor-force participation. In contrast, a 1% increase in female labor-force participation in Italy was associated with greater than a 3.2% decline in fertility. How could such a pervasive and fundamental social change (increasing female labor-force participation) accompany such divergent fertility trends?

The answer lies in varying institutional responses. Rindfuss (1991) stressed the importance of affordable, quality child care in weakening the incompatibility of work and childbearing and

child rearing. Bianchi (2000) stressed gender and technological changes that affected the division of household labor (also see Bianchi et al. 2000; Gershuny 2000). In the United States, these changes allowed women's time with children to remain virtually unchanged over the 1965–1990 period. Esping-Anderson (1999) argued that welfare-state regimes offer different institutional environments for parenting. McDonald (2000) conceptualized very low fertility as an incompatible change in familial and nonfamilial institutions. I find the intuitive appeal of these institutional arguments to be powerful and their overlap to be considerable.

Quantitative tests of institutional arguments provide some evidence of pronatalist impacts, but tests to date are limited by a focus on a few specific features, especially family-related public policy. A broader consideration of the *cumulative* childbearing environment would provide compelling explanations of cross-national differences. Quantitative studies of multiple countries face great challenges in measuring and incorporating this context. Pampel's (2001) interesting and important country-level analysis of welfare-state and institutional arguments suggests that governmental support can attenuate the effects of increasing female labor-force participation on fertility, but his regressions leave the United States as a large outlier. With little public support of families, why is U.S. fertility among the highest in the developed world? The U.S. story clearly does not lie in the relative generosity of welfare systems that were explicitly included in Pampel's analysis; instead, it must lie in the responsiveness of nongovernmental institutions (perhaps consumer markets or changes in the family, especially gender roles).

For example, my colleagues and I (DiPrete et al. forthcoming) compared the costs of a first child in West Germany and the United States. Costs were narrowly defined as the change in family income that accompanies a birth. Longitudinal data showed that West German women exit the labor force for much longer periods than do American women, with a correspondingly greater decline in earnings for West German women. German government transfers compensate for a substantial part of this difference, but the net costs on this dimension remain greater for West German women. Indeed, the greater cost and longer exits from the labor force are associated with lower rates of first birth in West Germany than in the United States. Apparently, institutional responses other than government transfers, perhaps greater gender equality and labor-market responses, such as flex time, more than compensate for the paltry U.S. government transfers (in women's and couples' decisions to have a first child).

In sum, the context matters, and contexts vary. Covariation of institutional contexts with fertility levels shows that very low fertility is not inevitable. However, this statement leaves us a long way from a precise answer to the question, what mix of institutions produce an environment conducive to replacement-level fertility?

Answering this question is the agenda of the next decade for studies of low fertility. The richness of analyses will be aided by the study of more societies (and more non-Western societies) as low fertility spreads. One way that demography has traditionally contributed to answering such questions is by identifying more precisely what proximate variables produce fertility change and variability.

An Integrative Framework

I recommend Bongaarts' (2001a, 2002) conceptual framework, which views the TFR as resulting from the population's intended family size multiplied by a set of factors that are not subsumed or cannot be subsumed in the respondent's fertility intentions. These factors reflect unanticipated effects. In Table 4, I offer hypothetical values for these proximate determinants that are more fully justified elsewhere (Morgan and Hagewen forthcoming). The values present a stylized view of Italy and the United States. Consistent with substantial evidence suggesting small differences in intended family sizes across developed countries (Bongaarts 2001b,

2002),⁴ let us assume an intended family size of 2.0 and 2.2 for Italy and the United States, respectively.

In this framework, a parameter of 1.0 reflects no effect net of intentions, values above 1.0 increase fertility relative to intentions, and values lower than 1.0 decrease fertility relative to intentions. For example, the net effect of unwanted fertility (F_u) pushes the TFR higher than would be predicted by intentions alone: by about 12% in the United States and by 1/3 this amount in Italy. Not having a child of the sex one prefers (F_g) or having a child that dies (F_d) also cannot be anticipated and may increase fertility in a similar way, but these effects are small and do not vary in this illustration.

The last three factors—the tempo effect, infecundity, and competition—are potentially powerful in explaining very low fertility. Bongaarts and Feeney (1998) showed that adjustments for fertility delay (F_t), the postponement of births to later ages (and, necessarily, subsequent years), can explain a substantial part of the very low fertility observed in contemporary settings. The estimates for fertility delay capture the range of values observed circa 1995. Specifically, shifts in the timing of childbearing reduce fertility by about 15% (a factor of .85) in Italy and by 8% (a factor of .92) in the United States. As Bongaarts (2002; Bongaarts and Feeney 1998) has pointed out, these reductions are, by definition, temporary (on a decadal time scale).

Infecundity is the flip side of unwanted fertility. Intended family sizes are inevitably reduced by infecundity, and this impact (F_i) is directly related to the age pattern of childbearing. The pattern of later childbearing in Italy reduces fertility by 10%, while the pattern in the United States reduces fertility by half this amount.

Finally, competition (F_c) refers to decisions to revise childbearing intentions, that is, to have fewer (or more) children than anticipated, on the basis of one's life experiences. One might view this as the extent of antinatalist opportunities or the lack of institutional adjustment reducing say, work-family incompatibility. But also included in this variable are reductions in intended family size later in the life course because one does not marry and does not want to have a nonmarital birth or to raise a child without a committed partner. As an illustration of these combined forces, Ginsborg (2003:73–74) suggested the following explanation for low Italian fertility:

(Italy) offered its own peculiar mixture of transformation and continuity (T)here were strong forces pushing towards a European model of modernity ... leading to greater individual choice, the spread of contraception and legalized abortion, the partial emancipation of women and their entry into the labor market. (In addition), tradition weighed heavily in both the public and private spheres: the felt obligation to have children within marriage, the power of the family as an intergenerational collective, the state's disinterest ... in reproductive politics.

Consistent with evidence I presented earlier, especially with the data presented in Table 3, the competition parameter (F_c) is set to reflect sharp differences in institutional constraints between Italy and the United States.

I find this proximate-determinants model useful. Note how a modest set of hypothetical differences cumulate to produce substantial differences in fertility. Low fertility has multiple causes, and convincing explanations may read like country-specific social histories.

⁴Of course, more sophisticated questions and analyses may reveal differences between countries. This perspective should refocus demographers' attention on fertility intentions and levels of certainty respondents attach to their intentions.

Quesnel-Vallée and I (forthcoming) applied this model to U.S. longitudinal data from the National Longitudinal Survey of Youth for the period 1982–2000. Because we focused on a cohort of women, we were able to eliminate the tempo effect (F_t), an important factor in Bongaarts's period formulation. We showed that only about 38% of women realized their stated intended parity at age 22 by age 40. The individual-level error between intent and behavior averaged 1.0 birth per woman; the net error was -0.33 birth. Thus, consistent with much prior research (e.g., Westoff and Ryder 1977), the predictive validity of intentions is far from perfect, and errors do not necessarily “balance”; in this case, women more frequently missed low than high. Our prediction is that such an analysis for Italy would show a similar level of error but, following from Bongaarts's framework, with a much larger negative net error. Italians are almost always missing on the low side, that is, they almost always have fewer children than intended.

We (Quesnel-Vallée and Morgan forthcoming) also found that errors between intended and realized family sizes are ordered, as one would expect given the arguments I presented so far. Related to the competition parameter, those who do not marry, or marry late, are likely to have fewer births than intended. This occurs in a context in which roughly one-third of births are nonmarital; marriage would likely play a greater role in Italy, where nonmarital births are rare. Highly educated women, but not highly educated men, are more likely than their less-educated counterparts to have fewer children than intended. We interpreted this finding as an effect of competition between employment and familial options that are felt more intensely by women than by men. Finally, women and men who have children later—say, after age 25—are much more likely to have fewer children than intended (compared with those having children earlier). This finding could be explained in terms of infecundity at later ages, although other interpretations are plausible.

By way of summary and as a proposed working model, variation in low fertility is not produced by a disinterest in having children. Most women want children, and their mean intentions approximate what is needed for replacement-level fertility. But as women age, they are faced with a set of competing demands that are most easily accommodated by a delay in fertility. Postponement is a major reason for contemporary low fertility. Demographers know that shifts in the timing of childbearing affect period fertility rates, but few appreciate that postponement effects can act for three or more decades at substantial levels. The good news is that the underlying quantum of period fertility is substantially greater than the currently very low TFRs.

But this “mechanical” effect of temporal shifts is not the full story. Although post-ponement is frequently the least costly solution to competing fertility and nonfamilial opportunities, postponement brings risks that women will not have all the children they intend. One reason is the higher levels of infecundity at older ages. In addition, at older ages, competing demands may interact with being “too old,” in a social sense, for children (Rindfuss and Bumpass 1978). Thus, women revise their intentions downward at older ages, and continuing delay and competing opportunities translate some delayed fertility into forgone fertility.

Although this general process is occurring everywhere in the developed world, it plays out differently in particular societies. Public policy and institutional responses *can* assist women in realizing their intended fertility by easing the difficulty of combining child rearing, working, and participating in other activities, and by making parenthood practical at younger ages (Lutz et al. 2003). Some countries have contexts that are more conducive to childbearing than do others. Current cross-national fertility differences are largely the unanticipated consequences of current public policy and institutional arrangements. But these differences indicate that lowest-low fertility is not our inevitable destination and demise.

Is Low Fertility A “Crisis”?

One need not be a pessimist to concede that a future without problems is unlikely. Cherlin (1999), however, warned against “going to extremes” and defining all problems as either a crisis or as trivial. Some problems and challenges are real but are of a second order. Perspective can be gained by identifying some as the kind of problems one would like to have. What characteristics define problems one would like to have? First, these problems result from solving some bigger, more troublesome challenge. Second, these problems have solutions and befall those with the resources to solve them.

In my view, low fertility is not a twenty-first-century crisis—not yet, anyway. It is a genuine problem, but the kind of problem we want to have. That is, it is the result of solving a bigger, more threatening social problem: the crisis of continued population growth. Low fertility is also a problem that can be addressed through public policy and institutional adjustments. Finally, low fertility is a problem that befalls developed countries that, by and large, have the resources to respond.

At the global level, population growth will slow over the next few decades because of increasingly pervasive low fertility. For those of us attracted to demography by neo-Malthusian concerns and who still believe that there are limits to human population growth, how can this be seen as anything but good news? It is clearly good news compared with the forecasts that primed the interests of many contemporary demographers. Continued attention to this decline and efforts to assure it are crucial. Besides, it was naive to think that fertility would magically stabilize exactly at replacement levels. Thinking globally, I prefer the current low-fertility problem to fertility at 2.5 or 3 births per woman, at least for the first half of the twenty-first century.

Low fertility produces rapidly aging populations and possible country-level population decline. It will reduce the proportion of the global population living in Europe and North America (see Demeny 2003). For whom is this a problem? It clearly depends on one's perspective. An African American colleague recently questioned my research agenda: “so you're studying the disappearance of white folks.” I was taken aback; this is not how I prefer to characterize my work. But he had made his point: for many, “fewer white people” does not sound like the greatest crisis of the twenty-first century.

Buchanan (2002), in *Death of the West*, was mightily concerned. He embraced the concept of differential growth rates with adolescent hormonal passion and subtlety. The book's subtitle is its thesis: *How Dying Populations and Immigrant Invasions Imperil Our Country and Civilization*. Buchanan's argument, like Wattenberg's (1989) earlier version, *The Birth Dearth*, is only the latest in a vintage that links population decline, family decline, and the decline of a “valued moral or national order” (Teitelbaum and Winter 1985:132).

Less polemical low-fertility concerns focus on a shortage of warriors, workers, and consumers. But given current technology and the global economy, these concerns seem to be second-order twenty-first-century problems. Fans of U.S. military might are breathless over its speed and technology, not its size. Furthermore, in a global economy, workers and consumers don't need to be homegrown or national coresidents.⁵

Of course, the severity of the problem of low fertility and population decline varies on a country-by-country basis. Effective responses bring to mind the concept of a multiphasic

⁵For that matter, soldiers need not be citizens. Noncitizen residents are numerous and are targeted recruits for the U.S. all-volunteer military.

response (Davis 1963). Moderate levels of immigration could easily offset modest below-replacement levels of fertility (say, cohort fertility of 1.7 or 1.8 births per woman). Source populations are numerous and willing (given receptive environments). In addition, short-term concerns about labor-force availability could easily be satisfied by postponing retirement. Retirement ages in some countries are low when compared with healthy life expectancy.

Finally, for societies that cannot even approximate replacement fertility on a decadal time scale, a full-blown crisis exists. For such countries, there is likely much more wrong than low fertility. Societies that can respond to the legitimate needs of their citizens and invest in the next generations will, I believe, approximate replacement-level fertility. These are places where the low-fertility public policy battles should be fought. A coalition of those concerned about low fertility, the welfare of children, the stress of the second shift, and gender equality could press for institutional adjustments that improve the quality of life for mothers, fathers, children, and families. Demographic research can provide evidence regarding which changes would make a difference. If enacted, such changes might just allow women to have the children they want while providing the children that low-fertility societies need.

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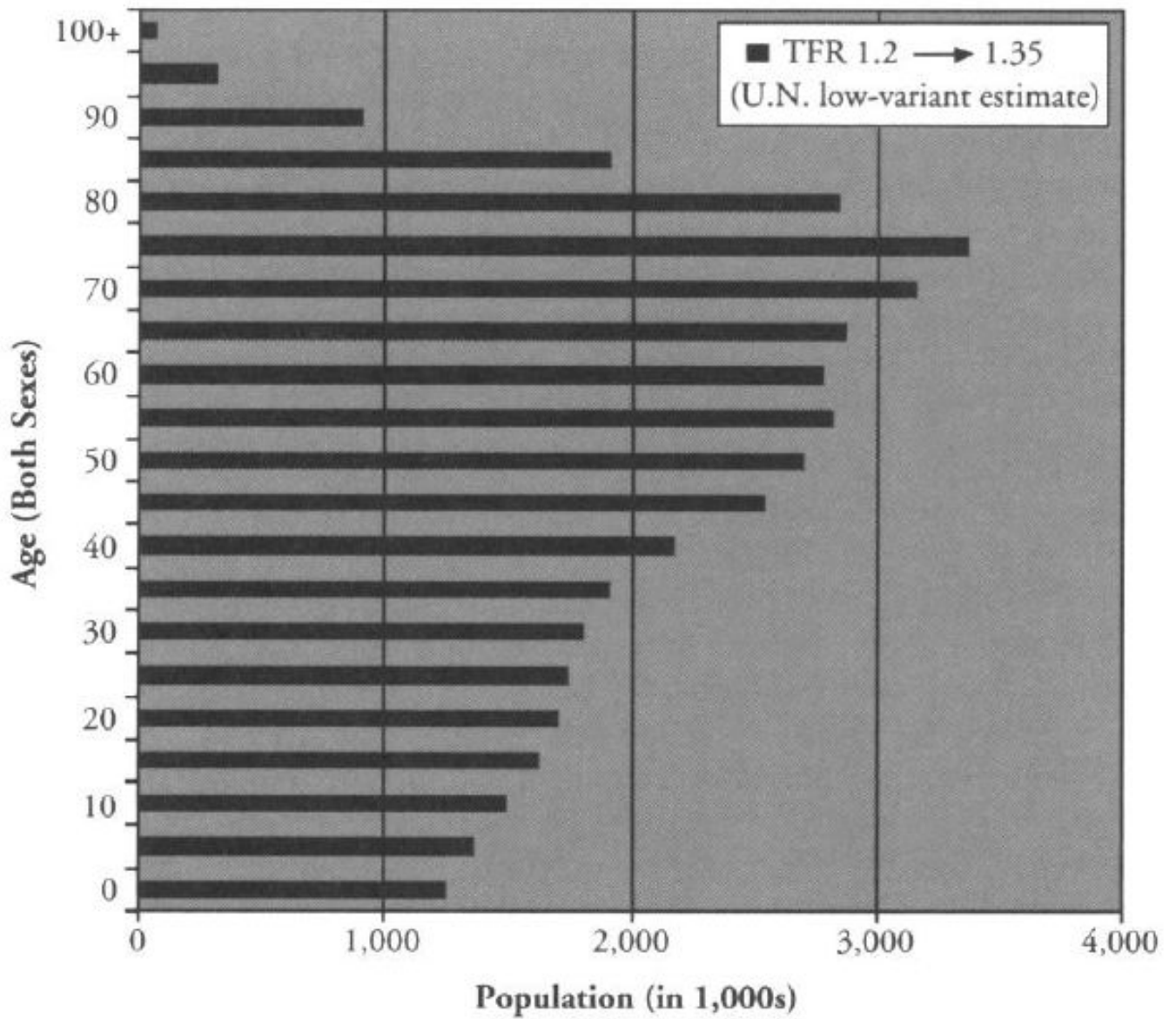


Figure 1. Projected Population by Age: Italy 2050
 Source: United Nations Population Division (2003b).

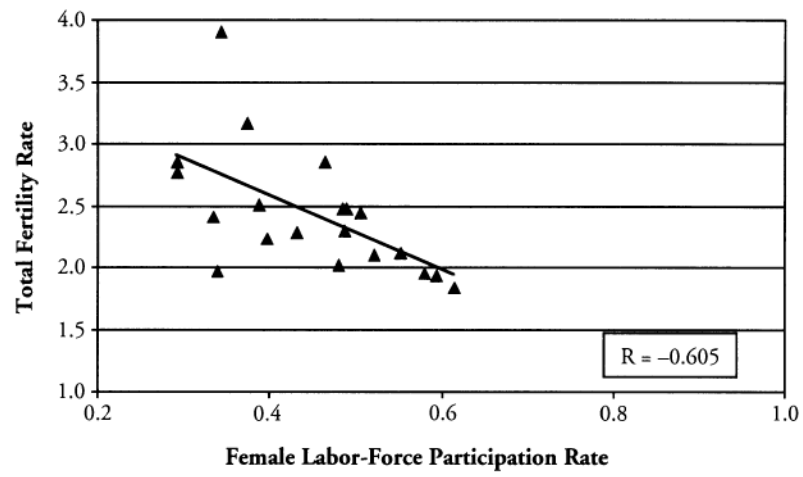


Figure 2. Total Fertility Rate, by Female Labor-Force Participation Rate, 1960: 22 OECD Countries

Source: Rindfuss et al. (forthcoming).

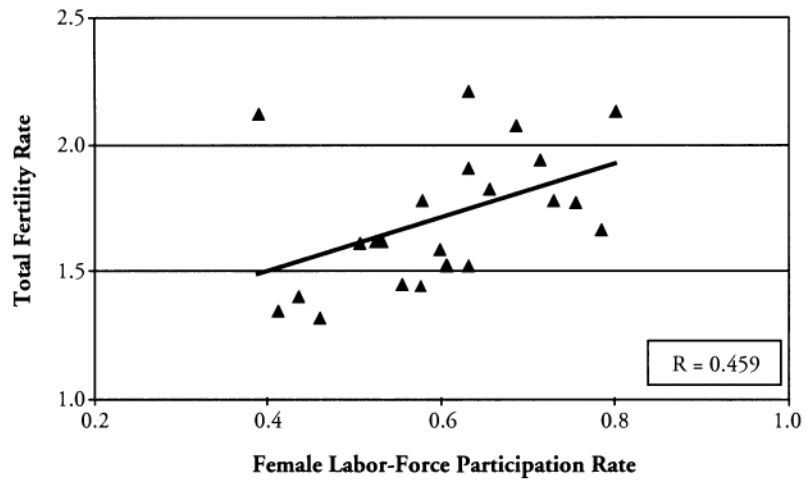


Figure 3. Total Fertility Rate, by Female Labor-Force Participation Rate, 1990: 22 OECD Countries

Source: Rindfuss et al. (forthcoming).

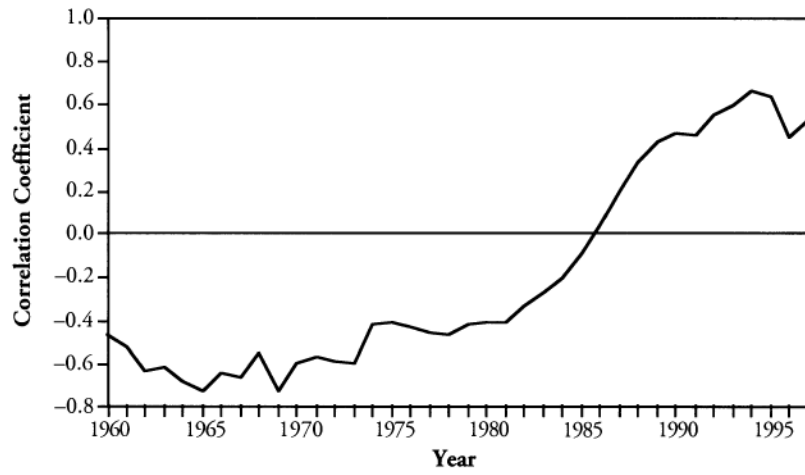


Figure 4. Year-by-Year Correlation Between the Total Fertility Rate and the Female Labor-Force Participation Rate, 1960–1995: 22 OECD Countries

Source: Rindfuss et al. (forthcoming).

Table 1

Stages of the Transition to Low Fertility in 187 Countries

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	No Transition	Declining With TFR > 5	Declining With 5 < TFR < 2.1	Declined to TFR ≤ 2.1	Early Transition and Baby Boom TFR < 2.1	Early Transition and 2.1 < TFR < 3	Total
Number of Countries	16	32	73	23	41	2	187
Percentage of Global Population Living in Countries at Selected Stages of Transition	3.0	9.5	42.6	24.6	19.6	0.7	100.0

Source: United Nations Population Division (2002: table 1.1).

Table 2
Variation in Low Total Fertility Rates (TFR)

Country	TFR
Spain	1.16
Italy	1.20
Greece	1.30
Germany	1.33
France	1.89
United States	2.03
U.S.: White non-Hispanic	1.84

Sources: United Nations Population Division (2002). U.S. data for 2001 are from Ventura, Hamilton, and Sutton (2003).

Table 3
Sensitivity/Elasticity of Female Labor-Force Participation (FLFP) and the Total Fertility Rate (TFR): Italy and the United States

Country	Years Since First TFR < 2.0	Average FLFP Increase	Sensitivity or Elasticity ^a	1997 TFR	Sensitivity Rank
Italy	21	0.4	-3.2	1.19	1
United States	25	0.5	0.3	2.06	22

^aSensitivity or elasticity = $\ln(\text{TFR}_t / \text{TFR}_1) / \ln(\text{FLFP}_t / \text{FLFP}_1)$, where subscript 1 = the first year in series TFR < 2.0 and year t = 1997 or the last year with observed data.

Table 4
Bongaarts's Conceptual Model of the Factors Affecting the Period Total Fertility Rate (TFR)^a: Illustrative Values for Italy and the United States

Component	Description	Country	
		Posttransition Italy	Posttransition United States
IFS	intended family size	2	2.2
F_u	unwanted fertility	1.04	1.12
F_g	gender preferences	1.02	1.02
F_r	replacement effect	1.005	1.005
F_t	tempo effect	0.85	0.92
F_i	infecundity	0.9	0.95
F_c	competition	0.75	0.9
TFR		1.22	1.99

^aTFR = IFS × F_u × F_g × F_r × F_t × F_i × F_c .