



## COMMENT

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## Comment on "Can human populations be stabilized?" by Stephen G. Warren

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The article by Warren [2015] presents novel conclusions on demography, challenging the dominant paradigm. What was missing from his analysis was an examination of the social and political ramifications that follow from his conclusions.

As Professor Warren points out, our current demographic dynamics take place against an abundant and increasing food supply, a supply that surely will have limits. In the dominant paradigm challenged by Warren, the spread of enlightened values, as they are often termed, are assumed to lead to a stabilization of population, and hence of a sustained adequacy of food supply and a concomitant future where human happiness and dignity are at least within the reach of all. At the present time, although world population is growing, we still enjoy abundance, except in anomalous conditions of famine or war; so our levels of population are widely viewed as manageable.

In most western societies diversity is viewed as social richness, and tolerance as a form of social progress. The spread of democratic values, including tolerance, is seen as an advance of the human condition, while nations with autocratic traditions, such as Iran, Russia, and China, are viewed as static at best and retrograde at worst. Such liberal values and sensibilities are viewed in the West as an inevitable outgrowth of history, universal in their applicability and appeal. That they might be contingent on historical and economic factors is seen as inherently implausible. Yet they may be inevitable only in the sense that the governments of diverse nations, lacking widespread commonalities among their populations, have gradually slipped into forms of what might be called radical individualism, the exaltation of the individual over any particular details of heritage or social function. With this radical individualism has come not only tolerance, but concepts of freedom and fulfillment as well. These liberal ideals, now apparently necessary and so widely seen as natural and desirable, have come to dominate in the West and have extended to intellectual and moral elites in other nations as well. But this moral world of progress and freedom will not survive the population dynamics that Professor Warren outlines as a threat looming before us, unrecognized and of an insidious nature.

The insidiousness of this threat lies in the exponential equation, laid out as a logarithmic one in a short appendix on page 93. The equation relates population growth rate to family size. I'll call it the Family Equation. Exponential equations are notoriously difficult to intuit; they explode with magnitudes that one rarely anticipates, even if one enjoys some mathematical maturity. It is the case here, for only a minor increase above a replacement rate of 2 per family can lead to what we might call "demographic excess" within a relatively short time. In effect, this equation implies that we must institute strong and pervasive restraints on family size across the entire planet as soon as we can, before we find ourselves faced with widespread famine in the poor high-fertility countries, and massive immigration into the rich low-fertility countries. The difficulty is that such restraints will be inherently difficult to inculcate as values in a population. Firstly, they would fly in the face of nature: as Professor Warren reminds us, it is biologically natural for an organism to produce more than two offspring. Secondly, they would be politically difficult, if not impossible, to implement in a world with today's ethic of freedom and individualism.

China and India have had policies restricting reproduction, with only China showing any success in this effort because, unlike India, China has a long history of centralized authoritarian control, while India, an amalgam of diverse regions and states, has a tradition of relative freedom and autonomy of the individual. In short, an effective reproductive policy can be instituted in a society only if it is also under pervasive and tight social control, with the individual subordinate to the overriding interests of the state. Once such state

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control is achieved for the purposes of controlling demographic excess, there would be few if any effective means for confining such control to that one sector of life, particularly if the policy had to be presented as crucial to national survival. Once strict measures are put in place for a matter of national security or survival, the compromises set against personal freedom and the diminution of governmental accountability would leak out, so to speak, and become an overall aspect of the social order within the nation. The best example of this contamination of the nation arising from a need to secure its survival is that of Rome in its transition from a republic to an empire. The existential threat against republican Rome posed by Carthage in the Punic wars laid the groundwork for this shift in values and in freedoms. There are two other complications, however.

First, as Professor Warren notes, some European nations are already in a demographic decline and presume that immigration is necessary to maintain social and economic standards. He cites Italy and a few others, but Russia could also be added. The social strains that have come with such immigration have not been easily managed and seem not to have long-term solutions. It remains unclear whether economic and social maintenance are worth the strains brought on by immigration and the “radical diversity” that it brings, a diversity that in such circumstances is no longer seen as a social richness, but rather as a social threat. A nation attempting population control would seem to require a fair and balanced policy, and it is not at all obvious how such a policy could be implemented across a region, such as the EU or Russia, much less the entire planet.

Second, there are groups that have suffered drastic population loss within recent history, such as the native Americans, the Circassians of the Caucasus (from Tsarist conquest), the Armenians (from Ottoman ethnic cleansing), and the Jews. Such groups would naturally seek an exemption status on the grounds of moral fairness and justice. Any state with a pretense of maintaining a moral façade would grant such cases an exemption, which we could call “reproductive privilege,” even of a minor degree of latitude outside the imposed standard. For example, China exempted 55 minority ethnic groups from its one-child policy [Greenhalgh, 2008, p. 359]. But Professor Warren has shown that reproductive fertility just slightly above replacement level can allow a group to become, in his words, a renegade, one that would soon overwhelm the population among which it lived (Box 3, p. 88). Therefore, a revocation of reproductive privilege would have to be made, but at what level to be triggered and how to be invoked and enforced? Diversity in such a setting would also become a threat, not a welcome social richness. Hatred would flare and conflict would likely ensue.

If Professor Warren is right, we must act to avoid a reversion to biological constraint, that is, to a hell of starvation and poverty. But our course to salvation does not itself look particularly appealing given today's embrace of freedom and our celebration of diversity. Our values will have to change both in terms of how we see ourselves and how we see social order [Hardin, 1968]. The problem facing governments is particularly acute since not only would they need to formulate such policies, but they would also have to persuade their citizens that such changes are a form of adaptation to necessity. In effect, they will have to implement the imperative implied by the Family Equation, an inherently counterintuitive bit of math. Their task will be to somehow maintain tolerance in societies that are already diverse, while also making the needed adaptations seem as though moral progress is still maintained. This last task would seem to present a hurdle that is well nigh insurmountable, at least one that a government would not be able to manage and still retain legitimacy because curtailment of freedom would signify a moral reversion, a change in direct opposition to moral progress.

None of these adaptations, social and political, will be easy nor will they be pleasant, but it seems that they will be inevitable if the human race is not to fall victim to its own biological exuberance.

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## REPLY

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## Reply to comment by John Colarusso on "Can human populations be stabilized?"

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I thank Professor Colarusso for thinking through the political implications of my paper [Warren, 2015], by applying his expertise in international relations and ethnic rivalry [Colarusso, 2015]. He presents an urgent recommendation for "strong and pervasive restraints on family size." I am skeptical that drastic political changes will be instituted until the need for them is widely felt, which will require more than just thinking hard about the mathematics of an exponential equation. By analogy, our experience with attempts to mitigate global warming shows that strong and pervasive restraints on fossil-fuel burning have not yet been imposed based on the output of computer models of climate; indeed, future widespread experience of climate disasters may be required before politics responds. A restraint on family size has been difficult to impose in the few countries where it has been tried, so it would seem impossible to accomplish it in every country. However, I do think that politics in the rich liberal democracies will be affected when they start to feel the consequences of overpopulation in the high-fertility countries.

Most people in the rich world are not aware that this is coming, because they are not aware of the disruptions caused by population growth that are already underway in the high-fertility countries, particularly in Africa but also in Yemen and Pakistan and some others. The problems caused by population growth in these countries are not reported much by news media in the West, so we in the rich world can continue to think of the conditions of famine or war as "anomalous, so our levels of population are widely viewed as manageable," in Colarusso's words.

Colarusso's prediction of the end of liberal democracy will be of most concern to the residents of liberal democracies. They are soon to be outnumbered by the people in poor countries who have other concerns that are more pressing than political freedom, because famine is looming [Potts *et al.*, 2013]. Even assuming that Nigeria's total fertility rate (TFR) will drop steadily from today's 5.5 children per woman (cpw), down to 2.2 by the year 2100, Nigeria's projected population for 2100 is 900 million [Gerland *et al.*, 2014, Figure 2], because of population momentum. This is a frightening prospect for agricultural experts who are scrambling to think how 900 million will be fed in a country that as recently as 1950 had only 33 million [Warren, 2015, Table 4].

The fertility of rich countries is now low compared with that of the poor countries, so the way that overpopulation in the poor countries presents a threat to rich countries is mostly by immigration and the possible continuing high fertility of the immigrants. If repressive policies are going to be enacted, the political pressure to do so will be felt first in immigration.

As Colarusso notes, there is a widespread presumption that immigration is needed to maintain a prosperous economy in low-fertility countries with aging populations. This presumption has been challenged, for example by Lee and Mason [2014], whose economic analysis of 40 diverse countries concluded: "Fertility below replacement, and modest population decline, favor higher material standards of living." Japan is probably the leader in this regard, showing how a country can manage a declining population without bringing in foreign workers who might introduce friction to a harmonious society [Weisman, 2013, Chapter 13]. But even if low-fertility nations do not recruit immigrants, there will still be increasing pressure from would-be immigrants to find a way in. Nigeria's population is now 182 million, and already 40% of Nigerians want to migrate to the West, according to a recent Gallup Poll [Nordland, 2015]. The barriers to migration set up by a rich country might lead to a more generally repressive government, as Professor Colarusso outlines.

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On the other hand, I think there some areas of hope to counter his discouraging analysis. My “Problem of Renegades” is central to his analysis, and I did indeed mean for that calculation to come to an alarming conclusion. But the renegades can grow to dominate a population only if they maintain their fertility excess over several generations, as I mentioned as a caveat in Box 3.

Second, Professor Colarusso may also be too pessimistic about the difficulty of inculcating restraints on reproduction as values. This societal change has apparently been accomplished in China, as a recent article in *The Economist* [2015] reported: “A belief that China has too many people is widely shared, as is a conviction that the country would have been far worse off without the one-child policy. Many Chinese are surprisingly willing to blame the country’s terrible traffic and its air and water pollution on overpopulation, rather than bad planning. Having just one child still has the whiff of the patriotic about it.” But with nearly 200 independent countries on the planet, it will admittedly be challenging to inculcate this ethic everywhere.

Third, fertility reduction, in the many countries where it has occurred, has mostly not required coercion. Even in China, most of its fertility decline happened in the 1970s, before the one-child policy was instituted, as I pointed out in Section 4 of my paper. And Taiwan’s TFR has dropped to 1.2 cpw without the restrictive policies instituted on the Chinese mainland. But *Campbell et al.* [2013] have emphasized that the fertility rate cannot decline unless the means of contraception are available. My paper was pessimistic about the long-term future (indeed, because of the “Family Equation”), but it did make one recommendation, namely for massive increases in funding and promotion of contraception, as well as provision of abortion services, both of which have been neglected in the past two decades [Potts, 2014].

Ironically, Colarusso’s predicted transformation of liberal western democracies into repressive totalitarian states could be forestalled by a *decrease* of repression in the poor, high-fertility countries. *Campbell et al.* [2013] pointed out that women in repressive patriarchal societies are bearing more children than they desire, because they are prevented access to contraception and abortion, both by explicit prohibitions and by more subtle but equally insurmountable barriers such as high prices, shortages of supplies, requirement for a prescription, distance to approved clinics, and limited mobility for women. These women are also victims of deceptive misinformation about claimed “side effects” that illiterate women have no way to evaluate. Working to expand freedom for women in male-dominated societies (and for children as well, freeing them from being pushed into early marriage) seems our best hope now for reducing fertility where it is highest, and consequently reducing the need for rich countries to erect barriers to migration.

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