THE CENTURY FOUNDATION
Issue Brief

DISASTER AHEAD! THE BREATHLESS WORLD OF THE NEW DISMAL SCIENTISTS

BY BERNARD WASOW

Thomas Carlyle coined the expression "the dismal science" to describe the young field of economics (then known as political economy). In truth, the economic and demographic projections by the great thinkers of the early industrial revolution were pretty gloomy:

- Malthus predicted that population would grow until disease and starvation prevented further expansion.
- Ricardo predicted that diminishing returns to capital would lead to a time when wages and profits would stagnate forever.

In two centuries since these brilliant men blew their forecasts, income per person has achieved levels that nobody of Carlyle's time could have imagined. Population has grown perhaps eightfold since then, while fertility has plunged. World population will likely reach a maximum this century. All this has happened in spite of the dramatic decline of Malthus's "positive checks" on population growth, namely famine, plague, and war.

The central reason for these two centuries of unparalleled growth of income and population is the steady accumulation of technical knowledge. The introduction of new ideas and inventions, from the germ theory of disease to electrical apparatuses, has held diminishing returns at bay, and should continue to do so into the indefinite future.

Yet a spate of recent forecasts by economists point to almost unbelievable crises ahead. Laurence Kotlikoff and Scott Burns in *The Coming Generational Storm* (MIT Press, 2004) recommend that we take antidepressants before reading their book. Kent Smetters and Jagadeesh Gokhale in *Fiscal and Generational Imbalances: New Budget Measures for New Priorities* (Federal Reserve Bank of Cleveland, 2003) agree that the U.S. economy faces imbalances almost too big to comprehend. At $44 trillion in one much-cited forecast, and $51 trillion in another, these deficits are as big as the total income the nation produces over four or five years.

Do the scary forecasts from these New Dismal Scientists (NDS) revive the specter of exploding population and stagnant income? Do they predict pestilence, disease, and starvation for our great grandchildren? Have we perhaps reached the outer limits of human ingenuity? Not a bit. None of the NDS suggest that we will suffer a decline in income growth or that that technological advance will stumble. The NDS agree with the conventional wisdom that our descendents in one hundred or five hundred years should have staggeringly more income on average than we have today, enjoying advances that we can only guess at.

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The looming crisis the NDS forecast—hold onto your green eyeshade—has nothing to do with the total amount of income available in the future, which will continue to grow handsomely. The crisis arises because we will not find it in our power to share the pie sensibly between the old and the young.

This "generational crisis," based on overlapping claims on output by the young and the old, is almost entirely bogus. But obscured by the NDS specter of avaricious crones is a real problem, which has almost nothing directly to do with age or generations: health costs are out of control in the United States. In the end, the NDS have manufactured a "generational struggle" where there is none, focusing on problems of health care for the old when the real problem is a system-wide health care cost problem, which unfortunately is all too real.

This brief will criticize the doomsday projections of the NDS, exploring why:

- the implicit moral/ethical foundation is *ad hoc* and unconvincing;
- super-long-run projections are too sensitive to assumptions to be useful; and
- if the NDS health care cost assumptions hold, the problem will not be generational; our great great great grandchildren will be using almost their entire incomes to pay for medical services for everyone, young and old alike.

Before we undertake this critique, let us review the type of analysis that the NDS undertake.

What Does the Future Hold?

It is easy to project any variable into the future. Just make some assumptions and see where they lead you. At a rate of growth of 2 percent per year, a population of 100 (or, if you prefer tracking dollars, $100 in the bank today), will grow to 442 people ($442) in seventy-five years. After two-hundred years, there will be 5248 people ($5248). Such calculations are trivial.

The hard part, of course, is to get the assumptions right. Markets provide some indication of who has accurate forecasting skills. Prices reflect a consensus about future values, and those who consistently speculate honestly and successfully owe their success to some combination of luck and better than average forecasting skills. But there are no markets that isolate outcomes seventy-five or two hundred years in the future. And even if there were, most forecasters would be dead before we had a reliable read on their accuracy. So the only way we can judge the accuracy of really long-run forecasts is to consult the seats of our pants. And as Malthus and Ricardo demonstrate, even the most brilliant minds may get the future embarrassingly wrong.

The NDS forecasts are nothing if they are not long-run. The NDS make forecasts not simply for the same horizon as the Social Security Trustees—seventy-five years—they generate projections without limits. Once again, technically, this is not a problem. It is no more difficult to predict population in ten thousand years than in one hundred years, given assumptions about growth rates. And future values of income and costs similarly can be forecast and then reduced to a "present value," namely, the amount one would need to have in the bank today, at a given interest rate, to grow to the projected value in one hundred, one thousand, or ten thousand years. When the NDS tell us what our current policies will cost if we do nothing from here to infinity, they simply are asking a computer to do the sums based on their assumptions.

Using such methods, the NDS tell us that we will run mind-boggling deficits in our government programs for the old, Social Security and Medicare. Current tax rates will be insufficient to pay promised benefits for an aging population, so funding gaps will grow larger and larger. Of course, a deficit of $11 trillion is a more startling-sounding number than a deficit of 1.2 percent of income (income also will grow very large as the centuries fly by), so since the NDS like to play for effect, the $11 trillion Social Security deficit is the one they feature.

The NDS also fail to make clear the breakdown of how the future deficit accrues over time. By comparing the seventy-five-year forecasts of the Social Security Trustees to the infinite horizon forecasts, we see that most of the huge deficits occur after the seventy-five-year period is over. Of the $11 trillion Social Security deficit, more than $7 trillion accumulates after the year 2080. Extrapolating basic assumptions not for one decade, one working life, or even one century, but to infinity, the NDS come up with numbers that are as questionable as they are terrifying.

Big Numbers

It may be useful to see how sensitive long-run forecasts are to small changes in assumptions. As an example, let us consider the implications of projecting the Social Security Trustees' "intermediate" assumption about wage growth versus its "low cost" (optimistic) assumptions. The intermediate assumption is that wages will grow at 1.1 percent per year from 2015 to infinity; the low cost assumption is that wages will grow at 1.6 percent per year.[1] Figure 1 shows the difference between the forecasts based on these assumptions for one hundred years.

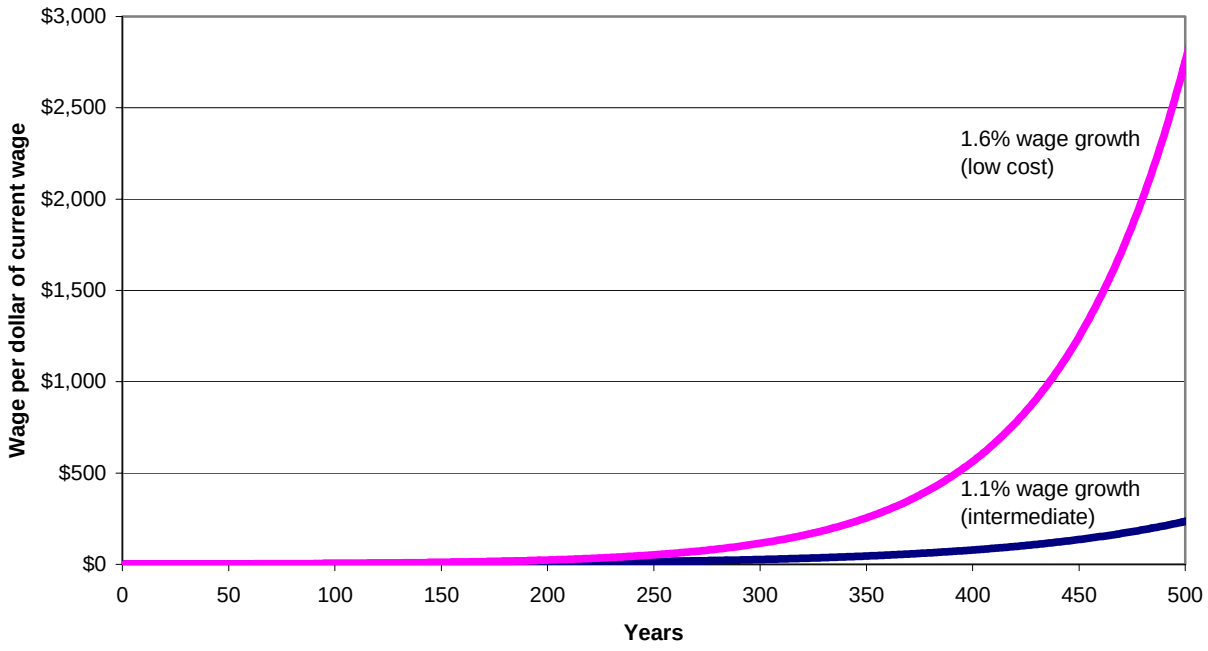
Figure 1. The Effect of Half a Percent Extra Wage Growth Over a Century

[1] *2005 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds*, Washington, D.C., March 23, 2005, Table VB1. For reference, between 1960 and 2000, wages grew slightly faster than the intermediate assumption, but since 1995 growth has been considerably faster than the low cost assumption.

The change in assumptions makes a substantial difference. Instead of rising nearly threefold, as with the intermediate assumptions, the optimistic assumptions would have wages approaching a fivefold increase over a century.

But the difference over one century pales in comparison to what happens in the really long run. Figure 2 shows what happens when we extend the forecast period to five hundred years (still a mere second of eternity).

Figure 2. Effect of Half a Percent Faster Wage Growth over 500 Years



Over five hundred years, half a percent more wage growth has enormous effect. The assumption of slightly faster wage growth compounds to final wages eleven times as large. These projections hardly can be taken seriously.

Generational Accounting

If the challenge to our Social Security system were framed simply as filling the financing gap, we might not find it so unmanageable: *Shift 1.2 percent of our entire future GDP to support the social insurance system that protects the old, the disabled, and their dependents from poverty; please arrange for this before the end of the world.* For a country that can, in a short time, shift 5 percent of its GDP into military production for a war, or reallocate 2 percent of its GDP to absorb a peace dividend, the challenge of financing Social Security should be a piece of cake.

To make the same point differently, average income is likely to grow at least threefold over the next hundred years. To meet our Social Security promises, we will need to add about 2 percent of output to the resources being transferred from workers to retirees through the system. Today, we transfer about 4.5 percent. Suppose that in one hundred years we need to transfer 7 percent (more than the 2 percent increase projected). That means that today we have 95.5 cents left over for every $1 of total income, after we have shifted 4.5 cents to retirees under Social Security. In one hundred years, we

would transfer 21 cents, but we would have income of $3.00 for every $1 today. So we would have $2.79 left over after we paid Social Security. Will our great grandchildren in one hundred years even notice the increase in Social Security's costs?

But the NDS are not simply concerned about how we will pay for our safety net. They are after something bigger. They want justice across generations. What does this mean? One can imagine a variety of definitions:

- Parents and children should live in harmony.
- Every generation should consume at least as much as the previous generation (as long as income keeps growing).

In the framework of the NDS, generational justice means something else: no generation should consume more than it produces over its lifecycle (with appropriate interest rates). This is an odd standard. Since every generation adds to the stock of human knowledge and technology that drives economic growth, it dies leaving a bequest of new advances to all future generations. Yet the ethical norm prescribed by the NDS is that no generation should expect its children to share this bounty with their parents. The issue is not whether the children will consume less than their parents—nobody predicts this. The NDS simply do not want parents to get *any* net transfer from their children. Of course, if every generation in its old age depended on transfers from its children, then, as in a bucket line, each generation would pass a portion of its income to its parents and then later would receive a portion of income from its children. Since total income is growing, many people would find this an agreeable intergenerational bargain. But not the NDS. For them, justice means self-sufficiency for each generation.

If the implicit norms of generational accounting are abandoned, the problem, at least the Social Security part of it, dissipates. Unlike the original Dismal Scientists, the New Dismal Scientists are not concerned about future generations' standards of living. They are concerned about their particular definition of generational justice, a definition that looks less and less sensible the longer you look at it.

Without Generational Accounting There Is No Real Social Security Problem

If we were only interested in the average standard of living in the future, the forecast deficit in the Social Security program is irrelevant. That is because Social Security is simply a set of institutions that shift claims on income from some people to other people. As a first approximation, those institutions do not change the size of the pie, they only slice it up differently. And the NDS stay at this level of approximation.

But the NDS are vitally concerned with who will get income in the future. Their implicit assumption rejects a net shift of resources from one generation to another. So, for example, if the generation that lived through the Great Depression and fought World War II gets more back than it paid into public programs, that is by definition unfair. So too, if each generation shifts resources to its parents' generation in excess of what the parents shifted to their own parents' generation, that too is unjust.

If one rejects this ethical position, the Social Security crisis involves no more than shifting a bit of our ever-larger output to the growing population of old people. The numbers involved are only frightening if they are removed from the context of the growing economy.

Health Care Costs

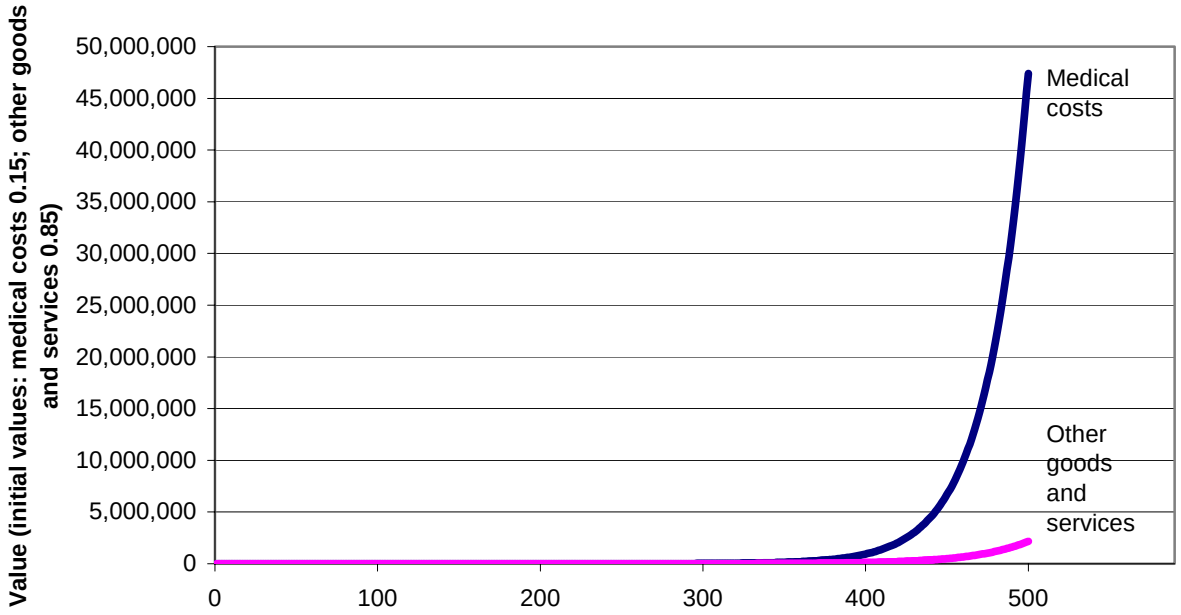
The careful reader might have noticed that the infinite-horizon deficit of Social Security is projected to be $11 trillion while NDS deficits from the headlines are four and five times as large. What accounts for the other $30–$40 trillion? The answer is health care costs. Here the analysis of the NDS is suspect for reasons different from those concerning their retirement pension analysis.

Health care costs have been rising much faster than other parts of our GDP for several decades. With about 15 percent of our total output devoted to providing health services, we have by far the most costly health care system in the world.

Medicare (and Medicaid), as part of our health care system, have been absorbing a growing share of output. But that is not because costs have been rising faster for the old than for the young, faster for retirees than for workers and children. The financial challenges to the publicly supported part of our health care system are simply part of the bigger problem of growing costs throughout that system.

If these costs continue to grow, eventually they will absorb essentially our entire GDP. For example, Figure 3 shows what would happen to the health care and other parts of our output if health care grew at 4 percent per year and the rest of the economy grew at 3 percent. Eventually, almost all our capital and labor will be used to deliver health care services.

Figure 3. Five Hundred Years of Medical Costs Growing at 4 Percent and the Cost of Other Goods and Services Growing at 3 Percent



If the five-hundred-year projection in Figure 3 looks stupid, it is because it is stupid. Not even the NDS predict that health care costs eventually will eat the entire economy. In fact, their long run (infinite) projections assume that the growth of health care costs come into line with the growth of total production in the middle of the twenty-first century. If they assumed health care costs were controlled sooner, the scenario would become less terrifying. If they let health care costs grow faster

than GDP forever, the picture in Figure 3 would apply. So the NDS projections let health care costs grow for a few decades, until they get really big and scary, and then they contain them so that they do not overrun everything else.

Regardless of the self-serving assumptions that underlie the NDS health cost forecasts, it is essential to recognize that the problems they are forecasting for Medicare could be equally applied to company sponsored health insurance, obstetric, or pediatric costs. They have nothing uniquely to do with generational issues or the old. The NDS are right in suggesting that a half century more of rapid growth of health care costs will create great social problems. But they are wrong when they characterize these problems as generational or as pertaining particularly to the public sector. They apply to the young, the old, and even the unborn; they apply to households, businesses, and the government.

Conclusion

The New Dismal Scientists—those who warn us that the old are ripping off the young and that we will have hell to pay for it—use an analytical framework that does not stand up to scrutiny. They use empirical methods that rely heavily on outcomes that we cannot possibly have insight into, because they lie so far into the future. And they misidentify a problem—rising health care costs—as generational when it affects every generation and every age American.

If we separate the two programs that the NDS identify as the problems, Social Security and Medicare, it becomes clear that Social Security is perfectly manageable, no problem at all. Medicare is only a problem insofar as it is part of the much more daunting problem of containing the growth of health care costs.

At best, the NDS may help us come to grips with our health care cost problem. At worst, they spread confusion and panic, identifying problems where none exist.

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