**Economics Research on Aging: An Input to the Entitlement Reform Debate**

James Poterba[[1]](#footnote-1)\*, May 16, 2011

Addressing the long-term fiscal imbalance facing the United States is arguably the most important policy issue on the national agenda. Legislators and analysts from across the political spectrum agree that the central challenge is bringing the prospective cost of our three largest entitlement programs, Social Security, Medicare, and Medicaid, into alignment with these programs' financial resources. The debate that is just beginning will explore a wide range of potential policy reforms. A large and growing body of research findings will help to evaluate these reforms, both from a budgetary perspective and from the perspective of potential beneficiaries who will be affected by program changes. Much of this research is supported by the National Institute of Aging. This brief memo provides several examples of research studies that bear on the entitlement reform debate, focusing first on Social Security, and then on Medicare and Medicaid reform.

Social Security

A central question in Social Security reform is how changes in various program parameters, such as the normal retirement age, the income replacement rate for individuals with different earnings histories, the benefit adjustment formula for those retiring before or after the normal retirement age, the formulas for spousal and survivor benefits, the inflation adjustment factors, and the availability of disability insurance benefits, will affect retirement behavior and the welfare of the retiree population. A related question concerns the interrelationships between private saving and Social Security benefits, and their respective role in providing financial resources and financial security at older ages.

For over a decade, the NIA has supported the International Social Security Project at the National Bureau of Economic Research. This project has been directed by David Wise; Jonathan Gruber and Kevin Milligan have also played a leadership role. This research project has compared the labor market experiences of older workers in leading OECD nations and the structure of Social Security programs in these countries. The findings provide compelling evidence that Social Security programs have a very substantial effect on work and retirement decisions at older ages. The nations with Social Security programs that provide the highest rates of earnings replacement for individuals in their late 50s and early 60s have the lowest labor force participation rates. For example, Gruber and Wise (2010) conclude that delaying benefit eligibility by three years would raise the fraction of men between the ages of 56 and 65 who are in the labor force by about one third. This research program has also explored the links between labor force activity among older workers, and the employment rate for younger workers. Gruber, Milligan, and Wise (2010) demonstrate that there is little if any relationship between the generosity of Social Security benefits, which affects the labor force participation rate of the old, and the labor market experience of younger workers. These findings conclusively reject the notion that if older workers remain in the labor force until later in life, they will displace younger workers who would otherwise take up the jobs that older workers hold. This is a key finding for the policy discussion of Social Security reform, since this concern has often emerged, particularly in Europe, as a source of resistance to raising retirement ages.

The results of the International Social Security Project are consistent with research focused primarily on the United States. Alan Gustman and Thomas Steinmeier (2009) study the relationship between changes in Social Security rules that encouraged delayed retirement, partial retirement, and return to the labor force after retirement, and the labor force activity of men in their 60s. They conclude that Social Security policy changes between 1992 and 2004 had a marked impact in raising the labor force participation rate for men aged 65 to 67 over this period.

These findings are important for the Social Security reform debate in the United States, because they illustrate the sensitivity of the career length with respect to economic incentives. They suggest that if the U.S. were to further increase the age of eligibility for Social Security, or the normal retirement age, or the benefit adjustment formula for deferring retirement, then a substantial fraction of workers would likely choose to work longer, substituting private support for income from a public program.

The disability program in the United States, a component of the Social Security program and one of the most rapidly-growing in terms of fiscal burdens, has also been the subject of active research. The fraction of non-elderly adults receiving Social Security Disability Insurance has more than doubled since the mid-1980s. David Autor and Mark Duggan (2006) find that this dramatic rise in the number of DI beneficiaries can largely be explained by three factors: the changes in DI program rules in the mid-1980s that allowed workers with low-mortality disorders, such as back pain and mental illness, to more easily qualify for benefits; the increase in the DI replacement rate, which has made applying for benefits more attractive; and the rise of female labor force participation, which has expanded the number of DI-eligible individuals relative to the population. These findings suggest that changes in either the review and appeal process for benefit grants, or in the generosity of benefits relative to previous earnings, could have important effects on overall program costs.

Another critical element of the Social Security reform debate concerns the relationship between Social Security and saving. Close to one third of households currently reach retirement age with no, or at most modest, holdings of financial assets. Such households are reliant on Social Security, and in many cases the accumulated equity in their home, as a source of retirement support. If Social Security becomes less generous in the future, a key question is whether private retirement saving will help to make up the reduction of publicly-provided benefits. While there are many ways to try to encourage private retirement saving -- tax incentives, financial education, and public saving campaigns being three examples -- the most powerful saving device that researchers have found so far is the "default option" in retirement saving plans like 401(k)s plans. John Beshears, James Choi, David Laibson, and Brigitte Madrian (2009) find that when a 401(k)-type plan shifts from the zero-saving default, which requires a new or existing employee to positively elect to make contributions to the plan, to a "default" setting, in which the employer contributes to the plan unless the employee explicitly enjoins him from doing this, the mean and median saving rates at the firm rise sharply. Early studies that documented such default effects, notably Madrian and Denis Shea's seminal (2001) paper that was supported by an NIA FIRST Award, were instrumental in persuading the Secretaries of Labor and Treasury during the late 1990s to adopt regulations permitting firms to offer default options in retirement saving plans.

The behavior of retirement savers is always a concern in a private sector saving program, since there is a risk that older households will "spend-down" their retirement resources too quickly and end up with too few resources, particularly if they live to much older ages. Steven Venti, Wise, and I (2011) have studied the withdrawal patterns from households in their 60s and 70s with Individual Retirement Accounts (IRAs). We find modest withdrawal rates for households in their 60s, typically averaging about two percent of the account balance per year, and a sharp increase in withdrawals after age 70½, when they are required to take so-called "minimum distributions." While it is possible that the current IRA participant population should not be generalized to the entire population, these results are encouraging in that they suggest that if account balances can be built up while households are working, they may be drawn down gradually after retirement and therefore contribute in a meaningful way to retirement income security.

Medicare and Medicaid

As with Social Security, fiscal pressures on the government’s public health insurance programs, most notably Medicare and Medicaid, have generated a number of reform proposals and options. Understanding the growth of health care costs is an essential starting point in designing public and private institutions that are designed to slow cost growth. Reforms that might be considered include increased patient cost-sharing, changing provider incentives to reward health outcomes over services performed, redesigned reimbursement formulas and coverages, private market Medicare and Medicaid options, health promotion incentives, and other reforms. The evaluation and design of Medicare and Medicaid reforms is informed by an enormous volume of economics research on how health care financing affects health care utilization, medical practice patterns, expenditures, technological development, cost-effectiveness in health care delivery, and health outcomes. This research can help to understand both the cost implications of reform, and the broader implications for the health care system overall.

One of the touchstones of economic analysis of health care markets is that insulating the recipients of care from the cost of their care reduces the incentive to balance costs and benefits. The RAND Health Insurance Experiment remains the gold standard for understanding how prices affect the demand for health care. The central results from that study, which was carried out in the 1970s, suggest that raising the prices consumers face for health care by about ten percentage points would reduce the demand for health care by about two percentage points. This suggests that introducing price sensitivity could reduce the amount of medical care consumed by U.S. households -- a potentially critical component of Medicare reform.

Amy Finkelstein, a recent PECASE award winner, conducted a historical study of how the introduction of Medicare affected the utilization of medical services by the elderly. Medicare was introduced in 1965, so any attempt to determine its effect on health care spending using only aggregate data is vulnerable to the charge that other coincident changes in technology or population health could explain the findings. Finkelstein solves this problem by comparing the growth of health care spending on the elderly in different parts of the United States, noting that the fraction of the over-65 population that had private health insurance in the years before 1965 differed widely across regions. In the South, for example, Medicare represented a much greater expansion of health insurance access than in the Northeast. Finkelstein's (2007) findings suggest that the introduction of Medicare accelerated the adoption of new technologies that were directed toward diseases that were prevalent among the elderly. It also led to an increase in hospital construction particularly to support specialties that were Medicare-supported. These results suggest that when the public sector adopt a policy that increase health care demand among a segment of the population, the private sector is likely to respond by investing in technology and facilities that benefit financially from public funding. While it is difficult to reverse this policy experiment, these findings offer some support for the argument that scaling back Medicare or Medicaid could lead to reduced investment in health care capital.

A related question is whether the availability of public insurance coverage for particular treatments leads to increased private effort to develop new treatments. Finkelstein (2004) studied this issue with regard to vaccines. She found that after Medicare provided reimbursement for influenza vaccines without any copayments or deductibles, a decision that took effect in 1993, vaccine research on influenza vaccines rose substantially. More generally, by studying a range of policies that expanded the market for vaccines, she concludes that each one dollar expansion of the vaccine market translates to roughly a five cent increase in spending on vaccine research. Another recent study that focuses on the innovation effects of Medicare Part D yields similar findings. Margaret Blume-Kohout and Neeraj Sood (2008) find that the passage of Medicare Part D was associated with significantly higher pharmaceutical R&D for drug classes with higher Medicare market share. This finding demonstrates that upstream innovation decisions can be sensitive to the downstream structure of public insurance programs.

The introduction of Medicare Part D, which is widely recognized as having contributed to the long-term disparity between Medicare's projected costs and revenues, has generated new opportunities for research on how health policy affects costs. Economists have already produced several key research findings that could inform future modifications of this program. Florian Heiss, Daniel McFadden, and Joachim Winter (2010) study the enrollment decisions of a sample of households who they surveyed just before Medicare Part D enrollment began, and then re-surveyed after the initial enrollment period had closed. They use data from the Medicare Current Beneficiary Survey to develop metrics for the expected prescription drug expenses for each of their survey respondents, and find that most of the households who they predict will benefit from enrolling in Medicare Part D do so. Robert Kaestner and Nasreen Khan (2010) estimate that the introduction of Medicare Part D increased prescription drug utilization by between 60 and 70 percent, while other health care services were largely unaffected.

The Medicare Part D program has introduced a number of new features that rely on market mechanisms to try to limit costs, and research has begun to identify both successes and potential limitations of these approaches. The findings of one study that focuses on how market power affects the cost of prescription drugs suggest a "success." Darius Lakdawalla and Wesley Yin (2009) find that when a private insurer is negotiating drug prices and rebates with pharmacies, the size of the insurer’s participant pool has an important effect on the outcome. An additional 100,000 participants were associated with a decline of 2.5 percent in average pharmacy prices, and a drop of 5 percent in pharmacy profits-per-prescription. The effects are driven primarily by therapeutic substitution for products with potential substitutes. These findings suggest the possibility of market competition as a route to reducing Medicare costs.

Other research on Medicare Part D, however, suggests that competition may have more complex effects at the patient level. Jason Abaluck and Gruber (2009) examine the choices that Medicare Part D participants made when confronted with a range of potential drug insurance programs. They draw on insights from psychology and behavioral economics to formulate and test hypotheses about the way Medicare beneficiaries chose their drug insurance plans. They find that participants place too much weight on the premium cost of different insurance plans, and too little weight on the potential out-of-pocket costs associated with point-of-use charges, relative to what a cost-minimizing analysis would suggest. They conclude that limiting participant choice along some dimensions, or pre-selecting several low-cost options for each participant and allowing choice within this set, might be an attractive direction for reform.

One of the most important questions in any debate about health care reform is whether the incremental care that is provided as a result of public programs produces tangible health benefits. One recent study by David Card, Carlos Dobkin, and Nicole Maestas (2009) provides interesting evidence on this issue. The study is premised on the fact that a substantial share of the population experiences a discrete positive change in their health insurance status at age 65, when they become eligible for Medicare. This study analyzes data on over 400,000 hospital emergency room admissions for "non-deferrable" conditions. While the researchers find that the rate of ER admission is indistinguishable for those before and after the age of Medicare eligibility, those who are slightly older than 65 are likely to receive substantially more intensive treatment, as measured by number of tests or likelihood of being transferred to from the ER to another care unit. The treatment seems to matter: the authors find a one percentage point (approximately twenty percent) drop in the seven-day mortality for patients just over rather than just under the age of 65. This mortality differential persists for at least two years.

The question of how much benefit patients derive from specific medical interventions has attracted research attention from economists long before the recent health reform debate. One of the most convincing calculations of the net benefits associated with a particular treatment is David Cutler's (2007) analysis of the change in life expectancy associated with advances in heart attack treatment. Cutler analyzes data on Medicare beneficiaries who experience heart attacks, and he studies the effect of revascularization on these individuals. Part of the ingenuity of his project is the use of a quasi-experimental source of variation in access to revascularization: the relative distance from each patient's home zip code to any hospital offering emergency cardiac care, and to a hospital that can perform revascularization. The core of the analysis is an assumption that those who live close to hospitals that can perform revascularization are more likely to receive this procedure, conditional on the severity of the heart than are those who live far from hospitals that can perform revascularizations. This differential in access to revascularization makes it possible to compare subsequent mortality experience of the two groups, and to attribute at least some of the differences in post-AMI longevity to this procedure. The findings suggest that revascularization increases life expectancy by about one year, and that this procedure is highly cost-effective. The average cost of revascularization was about $40,000 in the data sample, making revascularization a very cost-effective procedure.

Measuring the effects of specific health interventions, and of the health insurance coverage that provides access to such interventions, remains a very active research area. One particularly current project, led by Kate Baicker, Finkelstein, and Gruber, explores the impact of a state-sponsored health insurance lottery in Oregon. When the state expanded its Medicaid program, it did not have the budget needed to provide insurance to all low-income residents, but instead decided to conduct a lottery that would determine which residents would receive insurance. The researchers, who have been supported by the NIH and several private foundations, collected data including various biomarkers before lottery-winning households became eligible for insurance. They also collected data on a control sample of households that did not win the lottery. They are currently in the process of collecting data on these two groups in the post-lottery period, with the goal of providing evidence from a truly random experiment on the health consequences of insurance access in a low-income population.

Economists as well as doctors have tried to understand the source of cost differences between the U.S. health care system and that in other nations, as well as the factors that explain regional health care cost disparities in the U.S. Jonathan Skinner and Douglas Staiger (2009) examine productivity differentials across regions in the treatment of heart attack patients. They find substantial differences in the rate of diffusion of low-cost, but highly-efficient innovations such as beta blockers, aspirin, and primary reperfusion across hospitals. These disparities are accompanied by differences in survival rates, which tend to be lower at hospitals that have not adopted the latest technologies. While these descriptive findings do not offer a specific policy remedy for speeding the diffusion of low-cost interventions, they do underscore the importance of considering these issues in any program to reduce the rate of increase in health care costs.

In related work, Alan Garber and Skinner (2009) examine the relative efficiency of the U.S. health care system and that in other leading nations. They conclude that there are several dimensions of "American exceptionalism." The U.S. is more likely to pay for diagnostic tests and for treatments before their effectiveness has been established. They find that the U.S. has a particularly fragmented care structure, and that administrative costs are higher than in other nations. These findings provide at least a partial road-map for policy-makers who are seeking to identify components of the U.S. health care system that could provide a starting point for cost-saving policy interventions.

Conclusion

Many of the key decisions about how to return Social Security, Medicare, and Medicaid to fiscally sustainable paths will turn on politics, not economics. Whether to deny public funding for some care for some individuals, for example, is ultimately a political choice. The fiscal consequences of the many proposed reforms to our large entitlement programs, however, can only be assessed by drawing on the large and growing economics literature that describes and quantifies the behavioral effects of these programs. Similarly, any attempt to evaluate how changing these programs would alter health status, the probability of using medical care, the likelihood of falling below the poverty line, and household wealth at advanced ages, must draw on careful analysis of the effects of past changes in these programs. Economists supported by the NIA have been studying precisely these issues. Their ongoing work not only deepens our understanding of the economic effects of entitlement programs, but also plays a key role in providing the frameworks that will guide policy-makers as they address these challenging issues.

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