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BULLETIN ON AGING AND HEALTH

The Effect of Social Security on Well-Being in Canada

The last fifty years were marked by a significant expansion of social security programs in most developed countries, including Canada and the U.S. During this period, many countries raised benefit amounts, reduced the earliest age of benefit availability, and introduced new types of retirement benefits such as spousal benefits and special means-tested benefits for the poorest beneficiaries.

Unfortunately, many of these same countries now face great fiscal challenges in their social security systems, as population aging and a largely pay-as-you-go financing system combine to create large projected deficits in the coming decades. Some countries have already enacted reforms to reduce the generosity of their social security programs and others are likely to follow suit.

If these fiscal challenges are met by reducing retiree benefits, how will this affect the well-being of retirees? Surprisingly, the economics literature has relatively little to say about this question, as much of the existing international literature on social security has focused on labor market distortions of the program. Breaking with this trend is a new study by researchers **Michael Baker, Jonathan Gruber**, and **Kevin Milligan**, "**Retirement Income Security and Well-Being in Canada**" (NBER Working Paper 14667).

The authors make use of changes in the Canada pension plan (CPP) over the past 35 years to identify the effect of social security benefits on retiree well-being. The authors look at numerous measures of well-being, including income, consumption, poverty, and happiness.

One challenge with this type of analysis is that social security benefits vary over time and across individuals for many reasons, not simply because of differences in social security program rules. For example, later cohorts may have more education and higher earnings and be better off in retirement as a result, so one would not want to attribute their improved retirement outcomes solely to increases over time in social security generosity.

To surmount this problem, the authors create simulated social security benefits. In calculating these benefits, they give all cohorts the same values for factors such as earnings, capital income, and family status, so that simulated benefits vary across cohorts due only to changes in social security laws. In one variant of this approach they also hold constant retirement ages, while in another they use the actual retirement ages of each cohort; the latter takes account of changes in retirement behavior that may be in response to changes in social security laws.

The authors first describe the Canadian social security system. Essentially, the program has four main elements — a flat-rate benefit for all individuals age 65 or older, a means-tested supplement to the flat-rate benefit, a spousal allowance for 60–64 year old partners of individuals aged 65 or older, and an earnings-related benefit available starting at age 60. Importantly for this analysis, the introduction of the Canadian social security system in the 1960s and 1970s and subsequent changes to it had heterogeneous effects on different birth cohorts. For example, the earnings-related pension was phased in such that those born before 1900 received no benefits while those born after 1910 received full benefits. Also, the introduction of the spousal allowance in 1975 created a sharp increase in benefits for eligible spouses relative to comparable families a few years older. Many other changes to these programs over time also affected cohorts differently.

The authors' first results show a statistically significant $0.76 to $0.83 increase in retirement income for each additional dollar of simulated social security benefits. One perpetual concern is that the social security program may "crowd out" the individual's own efforts to provide for his retirement income security through his savings, labor supply, and receipt of family transfers, so that $1 in government benefits will generate much less than $1 in additional retirement income. Here,

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though, crowd out is modest. The results for consumption are similar — $1 in simulated benefits is associated with a $0.66 to $0.80 increase in consumption.

The authors find that higher social security benefits are associated with significant reductions in relative income poverty (defined as having income below the 40th percentile of the income distribution for non-elderly families). In fact, their estimates suggest that virtually all of the drop in poverty for seniors during the 1971–2002 period, a 7.4 percentage point drop, can be explained by the increase in social security benefits for low-income seniors during this time. Interesting, though, there is no significant effect of simulated benefits on relative consumption poverty (similarly defined). The authors speculate that this may indicate that seniors use savings or other means to smooth their consumption while waiting to be eligible for benefits at age 65. Finally, the results for happiness are weak, quite possibly due to the more limited data for this measure.

In sum, the authors find strong evidence that Canada's social security programs have enhanced retiree well-being. Increases in social security benefits have raised retirees' income and consumption significantly and reduced relative income poverty. They caution, however, "extrapolating these results beyond the observed cohorts must be done with care. Policy changes may affect savings and consumption behavior of generations that had more time to alter their plans than for cohorts who were surprised by policy changes in their near-retirement years."

The authors acknowledge funding from the National Institute on Aging (P01 AG005842).

Do Fast Food Restaurants Contribute to Obesity?

Over the past thirty years, the prevalence of obesity and obesity-related diseases in the U.S. has risen sharply. Since the early 1970s, the share of children age 6 to 19 classified as overweight has more than tripled, from 5 percent to 17 percent, while the share of adults classified as overweight or obese rose from half to two-thirds of the population. Over this same period, the number of fast food restaurants more than doubled. Exposés such as "Supersize Me" and "Fast Food Nation" as well as reports in the popular press have frequently suggested that fast food is at least partly to blame for the U.S.'s rising obesity rates.

Despite the popularity of this view, it has been difficult to empirically establish a causal link between fast food and obesity. The simple fact that fast food restaurants and obesity have both increased over time is insufficient proof of this link, as are studies that rely on differences in fast food consumption across individuals, since people who eat more fast food may be prone to other behaviors that affect obesity.

In **"The Effect of Fast Food Restaurants on Obesity"** (NBER Working Paper 14721), researchers **Janet Currie, Stefano DellaVigna, Enrico Moretti,** and **Vikram Pathania** undertake a careful study of the effect of fast food on obesity using the exact geographic location of fast food restaurants. Specifically, the authors examine whether proximity to a fast food restaurant affects the obesity rates of 3 million school children and the weight gain of over 1 million pregnant women.

The authors have several strategies to overcome the concern that children whose school is close to a fast food restaurant may be more prone to obesity for other reasons. First, the authors compute whether the fast food restaurant is within 0.10, 0.25, or 0.50 miles of the school and test whether there is a differential effect by distance. Given that there is a fast food restaurant in the general area, whether the restaurant happens to be very close to the school is arguably random and thus a good way to identify the effect of fast food access on obesity. Second, the authors control for a rich set of school and neighborhood characteristics in their analysis and allow these to vary over time. Finally, the authors estimate models relating changes in obesity to changes in access to fast food restaurants, relying on schools that gain or lose a nearby fast food restaurant during the sample period to identify the effect of fast food access on obesity. The authors estimate their models using data on all California 9th graders for the years 1999 and 2001–2007.

In their analysis of pregnant women, the empirical approach is similar — the authors include women for whom they observe at least two births in their sample, so that they can examine whether changes in fast food access between one pregnancy and the next are associated with changes in the probability of excessive weight gain. The authors use Vital Statistics data from 1989 to 2003 for Michigan, New Jersey, and Texas, the states for which they were able to obtain confidential data with mothers' names and addresses.

Turning to the results, the authors find that proximity to a fast food restaurant significantly increases the risk of obesity. For children, having a fast food restaurant within 0.10 miles of school increases the probability of obesity by 1.7 percentage points, or 5.2 percent. Interestingly, there is no significant effect of having a restaurant 0.25 or 0.50 miles from the school. The effects of fast food access are larger for girls.

Is the magnitude of this finding reasonable? To probe this, the authors estimate how many additional calories would be needed to push enough students over the overweight threshold (85th percentile of the historical BMI, or body mass index, distribution) to generate the estimated 5.2 percent increase in obesity. They estimate this to be 30–100 calories per day (per student). Given the large number of calories in typical items from a fast food restaurant, the magnitudes seem plausible.

For pregnant women, having a restaurant within 0.10 miles increases the probability of gaining over 20 kilos during pregnancy by 0.2 percentage points, or 2.5 percent. Unlike for children, the effects are still discernable at 0.25 and 0.50 miles. The effects are largest for African American mothers and mothers with a high school education or less. For pregnant women, the estimated increase in calories needed to generate this effect

is much smaller, only 1–4 additional calories per day.

The authors conduct several other interesting analyses. First, they explore the effect of other types of restaurants and find that only fast food restaurants affect obesity. Second, they ask whether the future presence of a fast-food restaurant is associated with greater obesity today. If that were the case, it would suggest that fast food restaurants locate in areas where obesity is trending up, providing an alternative explanation for the paper's findings. However, the authors find that only current fast food locations matter.

Overall, the study suggests that proximity to fast food significantly increases the risk of obesity. One possible explanation is that proximity to fast food reduces the costs of fast food, principally travel costs. A second explanation is that easier access to fast food tempts consumers who have self-control problems. The fact that the effects are larger for teens and fall off more quickly with distance suggests that travel costs are more important for teens than for pregnant women.

The policy implications of these findings are potentially important. As the authors conclude, "policies restricting access to fast food near schools could have significant effects on obesity among school children, but similar policies restricting the availability of fast food in residential areas are unlikely to have large effects on adults."

The Role of Patient Amenities in Hospital Demand

Hospitals have various dimensions along which they can differentiate themselves in order to compete against other area hospitals. One is clinical quality, as measured by patient outcomes. Another is their ability to offer the latest technology and equipment. A third is the amenities they offer to patients and their families.

Previous research has established that the first two factors affect patient demand for hospitals. In "**Hospitals as Hotels: The Role of Patient Amenities in Hospital Demand**," (NBER Working Paper 14619), researchers **Dana Goldman** and **John Romley** provide the first systematic evidence on the role of amenities in hospital demand.

Anecdotal evidence suggests that many hospitals are investing in patient amenities and promoting them to prospective patients. Hospitals increasingly offer perks such as wireless internet access and on-demand video entertainment, and some have introduced hotel-like amenities including room service style dining, massage therapy, and lobbies outfitted with fireplaces and a concierge. Some hospitals have even recruited executives who formerly worked in luxury hotels to direct their hospitality programs.

To learn whether patients respond to amenities such as these when deciding where to seek care, the authors study the hospital choices of nearly 9,000 pneumonia patients with traditional Medicare who were treated at Los Angeles area hospitals in 2002. These patients are a convenient group to study. They generally have the opportunity to consider where they would like to be treated, unlike some other patients (for example, those with HMO coverage or acute conditions such as heart attacks). They should care about clinical quality as well as amenities, since clinical quality has been shown to influence pneumonia mortality outcomes; in fact, the risk-adjusted pneumonia mortality rate at hospitals used by these patients ranges considerably, from a low of 7 percent to a high of 20 percent. Finally, since Medicare covers almost all of the cost of these patients' hospitalizations, the authors can safely ignore differences in hospital pricing in their analysis.

The authors' measure of amenities, which comes from a marketing research survey, is the percentage of survey respondents in the area who named each hospital their first choice for best amenities. To control for clinical quality, the authors include pneumonia mortality rates in their analysis; while these data were not publicly available at this time, the authors argue that patients nonetheless may be reasonably well informed about clinical quality from their doctors, friends, and family. They also control for the distance between the hospital and the patient's zip code, as this is another important determinant of hospital choice.

Turning to the results, the authors find that amenities have a positive and substantial effect on hospital choice. Interestingly, the effect of amenities is much larger than that of clinical quality. The authors estimate that a one-standard-deviation increase in the amenities measure raises a hospital's demand by 38 percent, while a similar increase in the clinical quality measure raises demand by only 13 percent.

These findings imply that hospitals may have an incentive to compete in patient amenities, which has potentially important implications for welfare. Hospitals can poach business from other hospitals by investing in better amenities, so to the extent that hospitals ignore the losses suffered by other hospitals when deciding how much to spend on amenities, they will over-invest from society's point of view. On the other hand, if hospitals are not able to appropriate the full value of the amenities to patients, then they will under-invest.

As the authors note, under Medicare's prospective payment system, reimbursement for medical services and amenities are bundled, making the system neutral with respect to the trade-off between clinical quality and amenities. Under such a system, hospitals' decisions to invest in clinical quality vs. amenities will depend on their own private costs and benefits. However, the authors conclude "as the Centers for Medicare and Medicaid services increasingly pursue 'value-based purchasing,' the social benefits and costs of amenities and clinical quality, and the provision of each in market equilibrium, become all the more important. These are worthwhile directions for future research."

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NBER Profile: *Mark Duggan*

Mark Duggan is a Research Associate of the NBER's programs in health care, public economics, and education.

Duggan is a Professor of Economics at the University of Maryland. Prior to joining the Maryland faculty in 2003, Professor Duggan served for four years as an Assistant Professor in the University of Chicago's Department of Economics. He has also held positions as a visiting fellow at the Brookings Institution and as a Visiting Assistant Professor at the Massachusetts Institute of Technology. At Maryland, he has won awards both for his graduate and for his undergraduate teaching.

Duggan was a Fellow of the Alfred P. Sloan Foundation and is the recipient of research grants from the National Science Foundation, National Institutes of Health, Social Security Administration, and Robert Wood Johnson Foundation. He is a research associate of the Maryland Population Research Center and an Adjunct Associate of the Stanford University Center for Health Policy. His research has appeared in leading economics journals, including the *American Economic Review*, the *Journal of Political Economy,* and the *Quarterly Journal of Economics.*

Duggan is an Associate Editor of the *Journal of Public Economics* and serves on the Editorial Board of the *American Economic Journal: Economic Policy.* He served as a member of the Social Security Administration's Technical Advisory Panel for Modeling the Effect of Social Security Reform on the SSDI Program.

Professor Duggan holds a Ph.D. in Economics from Harvard University and an M.S. and B.S. in electrical engineering from the Massachusetts Institute of Technology.

Professor Duggan's current research focuses on theoretically modeling and empirically estimating the effect of government expenditure programs such as Social Security, Medicare, and Medicaid on the behavior of individuals and firms. For example, one branch of his research focuses on explaining the rise in the Social Security Disability Insurance rolls, which he attributes in part to rising female labor force participation, the increase in the Social Security full retirement age, and changes to the Disability Insurance program. In other work, he has examined the effect of changes in the Medicaid and Medicare programs on health care spending and health outcomes.

In his spare time, he enjoys spending time with his wife and two young children, running, and following the Red Sox and other Boston-based sports teams.

Abstracts of Selected Recent NBER Working Papers

14580
Loretti Dobrescu, Laurence Kotlikoff, Alberto Motta
Why Aren't Developed Countries Saving?

National saving rates differ enormously across developed countries. But these differences obscure a common trend, namely a dramatic decline over time. France and Italy, for example, saved over 17 percent of national income in 1970, but less than 7 percent in 2006. Japan saved 30 percent in 1970, but only 8 percent in 2006. And the U.S. saved 9 percent in 1970, but only 2 percent in 2006. What explains these international and intertemporal differences? Is it demographics, government spending, productivity growth or preferences? Our answer is preferences. Developed societies are placing increasing weight on the welfare of those currently alive, particularly contemporaneous older generations. This conclusion emerges from estimating two models in which society makes consumption and labor supply decisions in light of uncertainty over future government spending, productivity, and social preferences. The two models differ in terms of the nature of preference uncertainty and the extent to which current society can control future societies' spending and labor supply decisions.

14624
Kevin Milligan, Mark Stabile
Do Child Tax Benefits Affect the Wellbeing of Children? Evidence from Canadian

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Child Benefit Expansions

A vast literature has examined the impact of family income on the health and development outcomes of children. One channel through which increased income may operate is an improvement in a family's ability to provide food, shelter, clothing, books, and other expenditure-related inputs to a child's development. In addition to this channel, many scholars have investigated the relationship between income and the psychological wellbeing of the family. By reducing stress and conflict, more income helps to foster an environment more conducive to healthy child development. In this paper, we exploit changes in child benefits in Canada to study these questions. Importantly, our approach allows us to make stronger causal inferences than has been possible with the existing, mostly correlational, evidence. Using variation in child benefits across province, time, and family type, we study outcomes spanning test scores, mental health, physical health, and deprivation measures. The findings suggest that child benefit programs in Canada had significant positive effects on test scores, as has been featured in the existing literature. However, we also find that several measures of both child and maternal mental health and well-being show marked improvement with higher child benefits. We find strong and interesting differences in the effects of benefits by sex of the child: benefits have stronger effects on educational outcomes and physical health for boys, and on mental health outcomes for girls. Our findings also provide some support for the hypothesis that income transfers operate through measures of family emotional well-being.

14634

Guy David, Sara Markowitz, Seth Richards

The Effects of Pharmaceutical Marketing and Promotion on Adverse Drug Events and Regulation

This paper analyzes the relationship between postmarketing promotional activity and reporting of adverse drug events by modeling the interaction between a welfare maximizing regulator (the FDA) and a profit maximizing firm. In our analysis demand is sensitive to both promotion and regulatory interventions. Promotion-driven market expansions enhance profitability yet may involve the risk that the drug would be prescribed inappropriately, leading to adverse regulatory actions against the firm. The model exposes the effects of the current regulatory system on consumer and producer welfare. Particularly, the emphasis on safety over benefits distorts the market allocation of drugs away from some of the most appropriate users. We then empirically test the relationship between drug promotion and reporting of adverse reactions using an innovative combination of commercial data on pharmaceutical promotion and FDA data on regulatory interventions and adverse drug reactions. We provide some evidence that increased levels of promotion and advertising lead to increased reporting of adverse medical events for certain conditions.

14637

Angus Deaton, Jane Fortson, Roberta Tortora

Life (Evaluation), HIV/AIDS, and Death in Africa

We use data from the Gallup World Poll and from the Demographic and Health Surveys to investigate how subjective wellbeing (SWB) is affected by mortality in sub-Saharan Africa, including mortality from HIV/AIDS. The Gallup data provide direct evidence on Africans' own emotional and evaluative responses to high levels of infection and of mortality. By comparing the effect of mortality on SWB with the effect of income on SWB, we can attach monetary values to mortality to illuminate the often controversial question of how to value life in Africa. Large fractions of the respondents in the World Poll report the mortality of an immediate family member in the last twelve months, with malaria typically more important than AIDS, and deaths of women in childbirth more important than deaths from AIDS in many countries. A life evaluation measure (Cantril's ladder of life) is relatively insensitive to the deaths of immediate family, which suggests a low value of life. There are much larger effects on experiential measures, such as sadness and depression, which suggest much larger values of life. It is not clear whether either of these results is correct, yet our results demonstrate that experiential and evaluative measures are not the same thing, and that they cannot be used interchangeably as measures of "happiness" in welfare economics.

14671

Phillip Levine, Diane Schanzenbach

The Impact of Children's Public Health Insurance Expansions on Educational Outcomes

This paper examines the impact of public health insurance expansions through both Medicaid and SCHIP on children's educational outcomes, measured by 4th and 8th grade reading and math test scores, available from the National Assessment of Educational Progress (NAEP). We use a triple difference estimation strategy, taking advantage of the cross-state variation over time and across ages in children's health insurance eligibility. Using this approach, we find that test scores in reading, but not math, increased for those children affected at birth by increased health insurance eligibility. A 50 percentage point increase in eligibility is found to increase reading test scores by 0.09 standard deviations. We also examine whether the improvements in educational outcomes can be at least partially attributed to improvements in health status itself. First, we provide further evidence that increases in eligibility are linked to improvements in health status at birth. Second, we show that better health status at birth (measured by rates of low birth-weight and infant mortality), is linked to improved educational outcomes. Although the methods used to support this last finding do not completely eliminate potentially confounding factors, we believe it is strongly suggestive that improving children's health will improve their classroom performance.

14679

Nicole Maestas, Mathis Schroeder, Dana Goldman

Price Variation in Markets with Homogenous Goods: The Case of Medigap

Nearly 30 percent of Americans age 65 and older supplement their Medicare health insurance through the Medigap private insurance market. We show that prices for Medigap policies vary widely, despite the fact that all plans are standardized and even after controlling for firm heterogeneity. Economic theory suggests that heterogeneous consumer search costs can lead to a non-degenerate price distribution within a market for otherwise homogenous goods. Using a structural model of equilibrium search costs first posed by Carlson and McAfee (1983), we estimate average search costs to be $72. We argue that information problems arise from the complexity of the insurance product and lead individuals to rely on insurance agents who do not necessarily guide them to the lowest prices.

14690

Angus Deaton

Instruments of Development: Randomization in the Tropics, and the Search for the Elusive Keys to Economic Development

There is currently much debate about the effectiveness of foreign aid and about what kind of projects can engender economic development. There is skepticism about the ability of

econometric analysis to resolve these issues, or of development agencies to learn from their own experience. In response, there is movement in development economics towards the use of randomized controlled trials (RCTs) to accumulate credible knowledge of what works, without over-reliance on questionable theory or statistical methods. When RCTs are not possible, this movement advocates quasi-randomization through i nstrumental variable (IV) techniques or natural experiments. I argue that many of these applications are unlikely to recover quantities that are useful for policy or understanding: two key issues are the misunderstanding of exogeneity, and the handling of heterogeneity. I illustrate from the literature on aid and growth. Actual randomization faces similar problems as quasi-randomization, notwithstanding rhetoric to the contrary. I argue that experiments have no special ability to produce more credible knowledge than other methods, and that actual experiments are frequently subject to practical problems that undermine any claims to statistical or epistemic superiority. I illustrate using prominent experiments in development. As with IV methods, RCT-based evaluation of projects is unlikely to lead to scientific progress in the understanding of economic development. I welcome recent trends in development experimentation away from the evaluation of projects and towards the evaluation of theoretical mechanisms.

14692

Helen Levy, David Weir

Take-Up of Medicare Part D: Results from the Health and Retirement Study

We analyze data from the Health and Retirement Study on senior citizens' take-up of Medicare Part D. Take-up among those without drug coverage in 2004 was high; about fifty to sixty percent of this group have Part D coverage in 2006. Only seven percent of senior citizens lack drug coverage in 2006 compared with 24 percent in 2004. We find little circumstantial evidence that Part D crowded out private coverage in the short run, since the persistence of employer coverage was only slightly lower in 2004 -- 2006 than it was in 2002 -- 2004. We find that demand for prescription drugs is the most important determinant of the decision to enroll in Part D among those with no prior coverage. Many of those who remained without coverage in 2006 reported that they do not use prescribed medicines, and the majority had relatively low out-of-pocket spending. Thus, for the most part, Medicare beneficiaries seem to have been able to make economically rational decisions about Part D enrollment despite the complexity of the program. We also find that Part D erased socioeconomic gradients in drug coverage among the elderly

14715

Annamaria Lusardi, Punam Anand Keller, Adam Keller

New Ways to Make People Save: A Social Marketing Approach

In this study, we use a social marketing approach to develop a planning aid to help new employees at a not-for-profit institution contribute to supplementary pensions. We employed different methods, such as surveys, focus groups and in-depth interviews, to "listen" to employees' needs and difficulties with saving. Moreover, we targeted specific groups that were less likely to save and contribute to supplementary pensions, such as women and low-income employees. The program we developed is not only effective but also inexpensive. While this program was implemented at a single institution, it is suitable to be applied to a variety of employers and demographic groups.

14720

John Helliwell, Christopher Barrington-Leigh, Anthony Harris, Haifang Huang

International Evidence on the Social Context of Well-Being

This paper uses the first three waves of the Gallup World Poll to investigate differences across countries, cultures and regions in the factors linked to life satisfaction, paying special attention to the social context. Our principal findings are: First, using the larger pooled sample, we find that answers to the satisfaction with life and Cantril ladder questions provide consistent views of what constitutes a good life, with an average of the two measures providing a clearer picture than either measure on its own. Second, we find strong evidence for the importance of both income and social context variables in explaining within-country and international differences in well-being. For most specifications tested, the combined effects of a few measures of the social and institutional context are as large as those of income in explaining both international and intra-national differences in life satisfaction. Third, the very significant influences of both income and social factors permit the calculation of compensating differentials for social factors. We find very large income-equivalent values for key measures of the social context. Fourth, the international similarity of the estimated equations suggests that the large international differences in average life evaluations are not due to different approaches to the meaning of a good life, but to differing social, institutional, and economic life circumstances.

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