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Mandatory Medigap Standards Reduce Insurance Protection

Minimum government standards on private medical insurance for the elderly have led to lower coverage than would have been the case in the absence of regulation, according to new research from the NBER. In **Minimum Standards and Insurance Regulation: Evidence from the Medigap Market** (NBER Working Paper No. 8917), author **Amy Finkelstein** finds that minimum standards imposed on "Medigap" insurance 25 years ago resulted in a decline in voluntary coverage of the regulated insurance of about 25 percent. This finding is of particular interest because minimum standards continue to be applied or proposed in many different health insurance markets, including state-imposed minimum standards on employer-provided health insurance and federal proposals for a "Patients' Bill of Rights" that would impose minimum standards on Health Maintenance Organizations (HMOs).

Medigap insurance fills the gaps in coverage left by Medicare, the U.S. public health insurance program for the elderly. These include co-payments and deductibles; services that Medicare covers only partially, such as home nursing; and health services that Medicare does not cover at all, such as outpatient prescription drugs. In 1977, prior to the imposition of minimum standards, Medicare paid for just under half of all the health care expenses of elderly Americans. As a result, two-thirds of Medicare

beneficiaries had private insurance to supplement Medicare, roughly half through employment-based ("group") policies and half through individual ("non-group") policies.

In the late 1970s and early 1980s, almost all the states followed a federal "recommendation" to impose minimum standards on the non-group Medigap market. These specified certain gaps in Medicare coverage that any non-group Medigap policy must cover, including coverage for co-pay-

However, the legislation did not require that individuals purchase Medigap insurance; it also left unregulated the price of the policy and the provision of additional, non-mandatory benefits.

Finkelstein uses information from the National Health Interview Surveys to examine the effect of the minimum standards on the likelihood of being covered by non-group Medigap insurance. She shows that the introduction of the minimum

"On net, the minimum standards are associated with an overall decrease in insurance coverage and thus an increase in individuals' exposure to out-of-pocket medical expenses."

ments on hospital days covered by Medicare, coverage of 90 percent of the cost of hospital stays beyond 150 days — at which point Medicare coverage stops — for at least another 365 days, and coverage of co-payments for physician visits. Data from the 1977 National Medical Care Expenditure Survey (NMES) indicate that, prior to the enactment of the regulations, less than 7 percent of non-group policies would have met the minimum standards, and that to come into compliance, these policies would have to substantially increase the amount of insurance provided.

standards was associated with a 15 percent decline in non-group coverage in the first two years, and a long-run decline of 25 percent. There is no evidence that individuals switched to other forms of unregulated insurance. Furthermore, although few non-group policies would have met the minimum standards prior to their implementation, many of these policies had provided additional benefits — such as prescription drug coverage or coverage for care in a skilled nursing facility — not required by the minimum standards. The evidence suggests that the minimum standards

also were associated with a substantial reduction in coverage of these non-mandated benefits for those who retained non-group Medigap insurance.

The motivation for minimum standards is a concern that individuals lack sufficient private insurance. Underinsurance may be the result of consumers' misinformation about their medical needs (and about the amount of coverage provided through the public Medicare program), or the result of what economists call "adverse selection" — that individuals know more about their medical needs than insurance companies do. Minimum standards attempt to increase insurance coverage by

requiring individuals who remain insured to purchase benefit coverage that they would not otherwise have purchased.

Finkelstein calculates the increase in insurance coverage for those who remained insured and therefore had to upgrade their coverage to comply with the minimum standards. She then compares this to the decreases in insurance coverage for those who chose instead to drop all coverage and the decline in non-mandated benefits among those who kept some insurance coverage. She finds that, on net, the minimum standards are associated with an overall decrease in insurance coverage and thus an increase in individuals' exposure to

out-of-pocket medical expenses. Moreover, Finkelstein concludes that the problem of adverse selection exacerbated the magnitude of the declines in insurance coverage produced by the minimum standards.

These results highlight the fact that policymakers need to think carefully about the nature of the market failure that motivates the regulation, and ask whether government intervention might make the problem worse rather than better. In this instance, while the problem of adverse selection might suggest the need for government intervention, it also exacerbated the negative consequences of this intervention.

— Andrew Balls

The Powerful Anti-takeover Force of Staggered Boards

Staggered boards are an important part of the modern U.S. corporate landscape and are currently used by most large U.S. public companies. In *The Powerful Anti-takeover Force of Staggered Boards: Theory, Evidence, and Policy* (NBER Working Paper No. 8974), authors **Lucian Bebchuk, John Coates, and Guhan Subramanian** study these arrangements.

The authors find that an "effective" staggered board (ESB), meaning one that cannot be circumvented by a hostile bidder, provides a powerful anti-takeover defense. While conventional wisdom holds that a company that becomes a takeover target is likely to be sold to either the hostile bidder or a white knight, the authors find that targets with ESBs can, and most of the time do, remain independent.

An ESB impedes bids by forcing a hostile bidder, no matter when it emerges, to wait at least one year to gain control of the board. Bidders are also substantially impeded, the authors argue, by the need to win two elections far apart in time, rather than a single referendum on its offer. Using new data on hostile bids in the five-year period from 1996-2000, the

authors find that not a single bidder won a ballot box victory against an ESB. The authors find that an ESB nearly doubles the likelihood of remaining independent from 34 percent to 61 percent; halves the odds that a first bidder will be successful, from 34 percent to 14 percent; and reduces the odds of a sale to a white knight, from 32 percent to 25 percent.

ESBs reduced returns for shareholders of hostile bid targets on the order of 8-10 percent in the nine months after the hostile bid was launched.

These findings are relevant for shareholder proposals to de-stagger boards, which have been increasing in recent years. These findings may also be relevant for the regulation of takeover defenses. The authors find that a majority of staggered boards

"An effective staggered board nearly doubles the likelihood of remaining independent, from 34 percent to 61 percent."

The authors also find that shareholders of targets that remained independent were made worse off, on average, than shareholders of targets that accepted either the hostile bid or a white knight offer. Furthermore, ESBs did not seem to provide sufficient countervailing benefits, in terms of increased premiums, to offset the costs of remaining independent. Overall, the authors estimate that

were adopted before the legal endorsement of poison pills in the early 1990s gave staggered boards their antitakeover potency. In the absence of clear shareholder approval for the ESB-poison pill combination, recognition of its antitakeover power may lead to greater scrutiny of the use of staggered boards to just say no to hostile bidders.

— Les Picker

Newer Drugs Cut Health Care Costs

Newer prescription drugs may be more costly than the drugs they replace, but a reduction in the age of drugs — defined as the years since approval by the U.S. Food and Drug Administration — decreases other expenditures for the entire population by more than 7 times as much as it increases health expenditures. Moreover, in **Benefits and Costs of Newer Drugs: An Update** (NBER Working Paper No. 8996), NBER Research Associate **Frank Lichtenberg** finds that people who take the new drugs are significantly less likely to die by the end of the period under study because the newer drugs are more effective. The drugs may obviate or reduce the need for costly hospitalization, institutionalization, or surgery.

Using data on expenditures of those Americans receiving Medicare benefits, Lichtenberg calculates that a reduction in the age of drugs used reduces non-drug healthcare spending by all payers (that is Medicare and various forms of Medicare supplemental insurance, Medicaid for dually eligible individuals, and Medicare beneficiaries' out-of-pocket payments) by more than 8 times as much as it boosts drug expenditures. It reduces the Medicare non-drug costs alone by

6 times as much as it increases spending on drugs.

Lichtenberg estimates that reducing the mean age of drugs used to treat a given condition from 15 years to 5.5 years will increase pre-

versus \$817) than for the entire population. Thus the savings from newer drugs are also somewhat higher. The total prescription drug expenditure per medical condition will increase by about \$21, but the

“Reducing the mean age of drugs used to treat a given condition from 15 years to 5.5 years will increase prescription drug spending per medical condition by \$18 for the entire population, but will lower other medical spending by \$129.”

scription drug spending per medical condition by \$18 for the entire population, but will lower other medical spending by \$129. That yields a \$111 net reduction in total health spending per medical condition. Most of the savings are attributable to reductions in hospital expenditures (\$80 or 62 percent) and in physician office-visit expenditures (\$24). Other smaller savings occur in home health care (\$12), outpatient visits (\$10), and emergency room visits.

For the Medicare population, average medical expenditure per condition is 57 percent higher (\$1,286

reduction in total non-drug spending per condition falls \$176, yielding a \$155 net reduction. Hospital cost reduction accounts for 58 percent of the savings (\$102). Home health care is trimmed \$37, and office visits \$34.

Lichtenberg also finds that the mean age of drugs used by Medicare enrollees with private prescription insurance is about 9 percent lower than the mean age of drugs used by Medicare enrollees without either private or public prescription insurance.

— David R. Francis



The Higher Education Labor Market

In the 1970s, projections of future university faculty shortages surfaced. Intrigued, scholars researched supply and demand of PhDs; however, the supply studies failed to address issues such as retirement behavior of faculty, academic versus non-academic employment, and time factors to complete PhD programs. And the demand studies failed to anticipate the growing university trend of part-time and adjunct faculty. Thirty years later, academic labor market issues are still in the early stages of study. In **Studying Ourselves: the Academic Labor Market** (NBER Working Paper No. 8965), NBER Research Associate **Ronald Ehrenberg** reveals some of his current academic labor market investigations and their findings.

For example, the salaries of faculty in public institutions have declined relative to the salaries of faculty in private institutions over the last two decades. In 1978, the average salary of professors at public research and doctorate granting institutions was 91 percent of the average salary at private research and doctorate granting institutions. By 1993, this ratio had fallen to 79 percent, where it has remained. Ehrenberg explores the forces behind that decline in salaries of public university professors, relative to their private institution counterparts, in work with Andrew Nutting. They use public and private institution data from 1973 to 1998 and study salaries by rank of professor for both public and private institutions, taking into account such things as endowments, tuition, and state appropriations per student. They find that between 50 and 60 percent of the change in the ratio of average public-to-private professor salary, at each rank, can be explained by differences in the change in real tuition levels. Private institutions' tuition levels have risen more in *absolute* terms than public institutions' tuition rates. Ehrenberg concludes that the decline in the ratio of public pay to private pay makes it more difficult for public universities

to hire and retain top faculty.

Ehrenberg and Nutting also find that average faculty pay has become more unequal across universities, but the causes of the growing salary dispersion differ for private and public institutions. The vast majority of the growing salary dispersion across private institutions is attributable to the increasing dispersion of endowment wealth. Even if two institutions experience the same

movements. Universities want to be leaders in these fields, so that they can attract top faculty, undergraduates, and graduate students, as well as increased funding for programs. What are the effects of the increased cost of scientific research on faculty salary and employment levels? While external support for research exists from government, corporation, and foundation funding, academic institutions now are bearing a greater share of the

“The decline in the ratio of public pay to private pay makes it more difficult for public universities to hire and retain top faculty.”

percentage increase in endowment growth, the university with the highest initial level of endowment per student will gain more absolutely in endowment per student and will be able to increase its average faculty pay by a greater percentage. The authors estimate that at the professor, associate, and assistant professor levels, about 75, 90, and 95 percent, respectively, of the increases in average faculty salaries at private institutions can be explained by the growing inequality of endowment wealth across private research universities. They suggest that for public research universities, the dispersion is caused by growing differences in both endowment per student and state appropriations. However, for all three ranks, endowment accounts at most for no more than 30 percent, with the majority of the differences caused by state appropriations. Ehrenberg writes, “The increased dispersion of average faculty salaries across institution in both public and private sectors suggests that it is becoming increasingly difficult for some institutions to attract and retain high quality faculty.”

Ehrenberg reports that he and Michael Rizzo find that developments in science promise major advancements for society, in such areas as high tech health care treat-

ever-increasing costs of research. It is more difficult to attract government money and grant makers are now pressuring universities to provide matching funds for research proposals they submit.

From 1971 to 1998, the percentage of research support per faculty member coming from universities rose from about 11 percent to 20 percent. The authors find no evidence that increasing institutional research funding affects salaries, but they do find evidence that research expenditures are associated with increases in universities' student/full-time faculty ratio. Controlling for factors including endowments, tuition levels, and state appropriations per student, the authors find that an increase in university funded research of \$10,000 per faculty member is associated with an increased student/faculty ratio of close to one. Tuition increasingly is being used to subsidize research in the sense that a higher student/faculty ratio implies fewer courses offered, larger class sizes, more use of teaching assistants, or more use of adjunct or part-time faculty. The growing institutional expense of science may have crowded out things other than faculty, too, such as funding for travel and other perks.

— Marie Bussing-Burks

Economic Growth is Reducing Global Poverty

The fierce debates over economic globalization have focused recently on global poverty and income inequality. Academics, journalists, and multilateral organizations of all stripes have weighed in on this matter, and a general consensus seems to have formed around the proposition that poverty and inequality are on the rise.

But NBER Faculty Research Fellow **Xavier Sala-i-Martin** begs to differ, and offers his case in **The World Distribution of Income (Estimated from Individual Country Distributions)**, NBER Working Paper No. 8933. He concludes that global poverty — measured by poverty rates as well as absolute headcounts — declined significantly from 1970 to 1998. Moreover, income inequality also declined, particularly in the last two decades he studies.

According to the author, his paper represents “the first attempt to construct a world income distribution by aggregating individual-country distributions.” Using income data covering 97 countries, Sala-i-Martin estimates five income shares for each country from 1970 to 1998. He then integrates the individual country data to form a single picture of global income distribution. He also incorporates 28 additional countries for which there are no individual income share data available, bringing the total in his sample to 125 nations, or roughly 88 percent of the global population in 1998.

Drawing on these data, the author first highlights the poverty and inequality experiences of the nine most populous countries in the world: China, India, the United States, Indonesia, Brazil, Pakistan, Japan, Bangladesh, and Nigeria. These cases reveal differing insights into the relationship between income growth and income inequality. In China, for instance, poverty rates plummeted in 1970-98, but inequality increased. In Indonesia, extreme poverty virtually disappeared and income inequality declined at the same time, countering the popular notion that growth and

inequality must go together. Finally, Nigeria offers a cautionary tale: as in much of Africa, Nigerian per capita income dropped over the last thirty years, and extreme poverty rose from 45 percent of the population in 1970 to 70 percent in 1998. However, inequality also increased so drastically that the richest Nigerians were actually better off in 1998 than in 1970.

Sala-i-Martin finds that, on a global level, the number of people living in extreme poverty (income of less than \$1 per day at the prices of 1985) and poverty (less than \$2 per

1970s but rising thereafter. Finally, Africa presents the worst performance of all, with the poverty rate nearly doubling — from 22 percent to 40 percent — from 1970 to 1998. The contrast between Africa and Asia is stunning: in 1970, of all the people living under \$1 per day, 11 percent lived in Africa, compared to 76 percent in Asia. By 1998, the figures were nearly reversed, with 66 percent living in Africa and only 15 percent in Asia. The key difference, the author writes, is that Asian economies experienced rapid growth, while Africa experi-

“The number of people living in extreme poverty declined dramatically, from 430 million people in 1970 to 52 million in 1998.”

day) declined significantly during the period under study. In 1970, roughly 40 percent of the global population subsisted under the \$2 poverty line, while about one-sixth lived under the \$1 line. The picture was much the same in 1980, but “things changed dramatically in the 1990s” the author writes, when China, India, and Indonesia began growing rapidly. By 1998, less than 20 percent of the world population was beneath the \$2 dollar level, while, less than 7 percent was below the \$1 level. “The world, therefore,” explains Sala-i-Martin, “has had an unambiguous success in the war against poverty rates during the last three decades.” Even in absolute terms, from 1976 to 1998, the number of people living under \$1 per day declined by 235 million between 1976 and 1998, while the number of people living on less than \$2 per day declined by 450 million.

The author then delves into regional differences and finds that reductions in poverty varied tremendously across continents. Asia was the best performer. The number of people living in extreme poverty declined dramatically, from 430 million people in 1970 to 52 million in 1998. Latin America’s track record is more mixed, with poverty rates declining in the

enced negative growth. “The welfare implications of finding out how to turn around the growth performance of Africa are so staggering, that this has probably become the most important question in economics,” Sala-i-Martin explains.

Finally, the author uses the nine most common income inequality indices in the economics literature to analyze the world distribution of income from 1970 to 1998. All of them offer the same overall result: Though inequality remained more or less constant, or possibly increased, during the 1970s, it declined substantially in the 1980s and 1990s. As a result, the shape of the income distribution has changed, from a bimodal distribution with a peak of poor people and a peak of rich in 1970, to a smoother distribution in 1998, suggesting the emergence of a “world middle class.”

Despite these improvements, some 350 million people still lived on less than \$1 per day in 1998, while nearly one billion subsisted on under \$2 per day. “Success,” cautions the author, “does not mean victory” in the fight against poverty and inequality.

— Carlos Lozada

Is Art a Good Investment?

In *Art Auctions: A Survey of Empirical Studies* (NBER Working Paper No. 8997), NBER Research Associate **Orley Ashenfelter** and co-author **Kathryn Graddy** review what is known about how the art auction system actually works and discuss whether art makes a good investment. They assess the accuracy of expert estimates of value, examine the determination of reserve prices, and explain why an economist would conclude that the settlement in the civil suit accusing Sotheby's and Christie's of price-fixing probably overcompensated buyers.

Because estimated returns on investments in art depend heavily on the time frame studied, the method used, and the data available, the authors conclude that it is difficult to come to any broad conclusions about art investment returns. They calculate that estimates of real returns from investing in art range from 1 to 4.9 percent in the 15 studies reviewed, but they caution that auction prices

may reflect an unrepresentative slice of the art market, that transaction costs of up to 25 percent are not included in the estimates, and that investing in art involves significant theft and fire risks.

They find that auction house experts are generally truthful and accurate in their pre-auction price

find strong correlations between the size of a painting and its price. Though experts advise purchasing the finest piece of art one can afford, the authors calculate that the most expensive pieces of contemporary art sold at auction tend to underperform lower-valued paintings by about 5 percent per year. Finally, the authors

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estimates, even though systematic over or under estimates are common for certain kinds of art. Experts appear to systematically overvalue recent contemporary art and systematically undervalue longer and wider paintings. Many people in the art trade are surprised that economists

examine the available evidence and conclude that the secret reserve prices commonly imposed on items at auction are 70 to 80 percent of the auctioneer's lowest estimate of the item's likely selling price.

— Linda Gorman



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