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Medicare Part D, Prescription Drug Utilization, and the Health of the Elderly

The Medicare Modernization Act of 2003, which has come to be known as “Medicare Part D,” provided a drug subsidy to all Medicare enrollees. In **Medicare Part D and its Effect on the Use of Prescription Drugs, Use of Other Health Care Services and Health of the Elderly** (NBER Working Paper No. 16011), **Robert Kaestner** and **Nasreen Khan** estimate the effect of gaining prescription drug insurance through Part D on the use of prescription drugs, the use of other medical services, and individual health. Their estimates are based on the behavior of the approximately 12,000 people surveyed by the nationally representative Medicare Current Beneficiary Survey (MCBS) in the years 2000 to 2007. The survey does detailed face-to-face interviews of panels of non-institutionalized Medicare beneficiaries aged 65 to 85 four times per year for four years.

The authors find that for the entire sample, “gaining prescription drug insurance through Medicare Part D

The authors find little evidence that the large increase in prescription drug use created by the passage of Part

“Gaining prescription drug insurance through Medicare Part D was associated with [a] 63 percent increase in the number of annual prescriptions.”

was associated with [a] 63 percent increase in the number of annual prescriptions.” The increase in prescriptions filled had no discernable effect on the use of other health care services or on health status as measured by functional status or self-reported health.

In a sample limited to the chronically ill, drug use increased by only 56 percent, but health status was still unaffected. However, outpatient visits by the chronically ill declined by about three visits a year, suggesting that prescription drugs may substitute for outpatient care.

D was associated with any change in outpatient service use, hospitalization, functional health, or general health status for most of those affected. They conclude that “much of the additional use of prescription drugs that results from gaining prescription drug insurance is [of] relatively low value in terms of health benefits,” although they cannot conclusively rule out small improvements.

—Linda Gorman

School Accountability and Teacher Mobility

Since 1999, Florida schools have been graded “A” through “F” using a combination of aggregate test-score levels from statewide tests administered in grades 4, 5, 8, and 10. In 2002, the accountability grades began incorporating test-score data

from grades 3 through 10, as well as measures of the year-to-year progress of individual students.

In **School Accountability and Teacher Mobility** (NBER Working Paper No. 16070), co-authors **Li Feng**, **David Figlio**, and **Tim Sass** observe

that the new grading system reclassified many schools, delivering what they term an accountability “shock.” Overall, the new system improved accountability grades in 42 percent of schools, and delivered lower grades in 9 percent of schools. Combining the

grading changes from the accountability “shock” with data from Florida’s K-20 Education Data Warehouse—a database covering all Florida public school students and school employees from pre-school through college -- they are able to estimate the effect of accountability measurement on teacher decisions to change jobs.

The researchers find that teachers are 6.5 percent less likely to leave their schools when accountability grades unexpectedly move upward. Teachers in schools that experienced an unexpected drop into the failing category were 42 percent more likely to leave their school, and were 67 percent more likely to move to another school in the same district than teachers in schools whose

grades were unaffected by the accountability grading change.

“Teachers are 6.5 percent less likely to leave their schools when accountability grades unexpectedly move upward.”

When the authors restrict their sample to math teachers, and to measured teacher quality in terms of a teacher’s estimated contribution to student math test scores, they find that the accountability shock changed the distribution of teacher quality both within and across schools.

Schools with constant accountability grades experienced no change in the quality of teachers that left the school or who stayed in it. Schools that were “shocked” downward—and thus faced

the most pressure to improve—lost more and higher quality teachers.

However, the downwardly shocked schools also exhibited an increase in the average quality of the teachers who stayed. The authors suggest that the remaining teachers may work harder, or have their productivity raised by the increased resources, such as reading coaches, that are routinely made available to failing schools.

—Linda Gorman

Oil, Automobiles, and the U.S. Economy

Contrary to popular opinion and previous studies, the U. S. economy is as sensitive to increases in the cost of oil today as it was during the oil embargoes of the 1970s, according to **Valerie Ramey** and **Daniel Vine**. Writing in **Oil, Automobiles, and the U.S. Economy: How Much Have Things Really Changed?** (NBER Working Paper No. 16067), they argue that earlier work on oil shocks underestimated the increase in the true cost of oil in the 1970s, when price controls and a complex system of entitlements led to long gas lines and outright rationing. “When we measure oil shocks as either the shocks to the price of gasoline adjusted for the cost of shortages or as the shocks to consumer sentiment toward gasoline, we find that the impact of these shocks on real activity has either diminished only slightly or has become larger in the later period,” they conclude.

A major reason the United States is thought to be less vulnerable to oil shocks today is that although the last two run-ups in real gasoline prices—during

1999–2001 and 2002–8—were larger than the first two run-ups during the oil embargoes of the 1970s, they didn’t seem to have as much of an impact on the U.S. economy. However, the price controls and other government poli-

“The U. S. economy is as sensitive to increases in the cost of oil today as it was during the oil embargoes of the 1970s.”

cies imposed during these periods added an additional but unmeasured cost on the economy. For example, the economic cost of waiting in gas lines added between 8 and 67 percent to the price of a gallon of gasoline in July 1979 and March 1974, respectively. Once those effects are factored in, the magnitudes of the first two oil shocks rival the last two.

Changes in consumer sentiment associated with oil shocks also have an impact on real economic activity, especially on sales of new cars, the authors find. Anxiety about high gas prices abruptly shifts consumer demand away from large gas-guzzling vehicles and toward smaller, more fuel-efficient vehi-

cles. Because automakers can’t shift their production as quickly as consumers shift their demand, dealers are stuck with too many gas-guzzlers and not enough fuel-efficient models.

Using detailed data on auto sales

and production, Ramey and Vine show that the mismatches between supply and demand for automobiles by car size were as large in the 2000s as they were in the 1970s and 1980s. They present evidence that the recent increases in gasoline prices have caused just as much anxiety among consumers now as the price increases 30 years ago did, and that the shifts in demand across vehicle size classes have been as disruptive to motor vehicle capacity utilization since 2000 as they were in the 1970s and early 1980s. Finally, Ramey and Vine find that the entire domestic auto industry’s share of total goods produced has not declined substantially since the 1970s.

—Laurent Belsie

Income Inequality, the Median Voter, and Support for Public Education

According to the U.S. Census Bureau, inequality in household income rose more than 20 percent from 1969 to 2006, driven largely by income growth in the top half of the distribution. This development, along with the growing diversity of the U.S. population along racial and ethnic lines, raises the question of whether public support for the provision of basic public services, and for a social safety net, has changed or will change in the future.

In **Income Inequality, the Median Voter, and the Support for Public Education** (NBER Working Paper No. 16097), authors **Sean Corcoran** and **William Evans** focus on the impact of growing income inequality on local support for public schools. Using panel data for over 10,000 school districts during 1970–2000, they explore the relationship between rising income inequality at the local level and fiscal support for public elementary and secondary education.

One possible effect of income

inequality on public spending is a tension of “the ends against the middle,” where both high and low income households choose lower spending on education. Very high income families may favor

“As income inequality has grown in local school districts, so too have the local dollars flowing into elementary and secondary education.”

private-over-public schooling, and low income groups may choose lower taxes and higher consumption over investments in public education. However, the authors conclude instead that the “median voter model” offers a more accurate description of the experience in public education. In this case, the decisive median voter (a household in the middle of the income distribution) benefits from growth in income at the top of the distribution. This decline in the cost of raising public funds results in demand for greater spending on government services.

Indeed, Corcoran and Evans find

that as income inequality has grown in local school districts, so too have the local dollars flowing into elementary and secondary education. Their results indicate that 12 percent of the growth in local

per-student revenues over the past 30 years can be explained by a decline in the cost of raising public funds for the median voter, a consequence of rising income inequality concentrated in top of the distribution. The authors’ results suggest that one consequence of rising social inequality may be a growing capacity of local governments to raise funds from those with growing incomes in the upper tiers of the income distribution.

—Lester Picker

International Business Cycle Synchronization in Historical Perspective

Michael Bordo and **Thomas Helbling** examine economic data spanning the past 125 years and find that the global economy has shown a steady increase in business cycle synchronization over this period. They further find that the chief cause of this phenomenon in the major industrial countries is the growing importance of global economic shocks.

In **International Business Cycle Synchronization in Historical Perspective** (NBER Working Paper No. 16103), Bordo and Helbling note that the world-wide economic slump that began in 2008 stands in stark contrast to the view, which had become increasingly widespread in recent decades, that business cycle linkages among industrialized countries have become weaker over time. They argue that long data samples are

necessary to address questions about synchronization, because in the short term, business cycle dynamics depend largely on shock dynamics. These shock dynamics can overshadow the effects of long-term trends.

“The global economy has shown a steady increase in business cycle synchronization over [the past 125 years].”

The researchers examine annual data for 16 countries that cover four distinct eras with different international monetary policies: 1880–1913, when much of the world adhered to the classical Gold Standard; the interwar period of 1920–38; the 1948–72 Bretton Woods regime of fixed but adjustable exchange rates; and the modern period, namely 1973 to 2008, which saw managed floating

among the major currency areas. They measure the strength of cross-country linkages in macroeconomic fluctuations using correlations among growth rates in real GDP.

Bordo and Helbling find that in

recent decades, with increased interdependence through trade and financial linkages, global shocks—or the rapid transmission of shocks in the center countries—have become a more important source of business cycle fluctuations. In the post-World War II period, business cycle fluctuations have moderated, reflecting changes in sectoral structure, automatic stabilizers, the use of lender-

of-last-resort operations, and the use of discretionary counter-cyclical policies, among other factors. The volatility of idiosyncratic, or country-specific, shocks has decreased more than that of global, or common shocks, suggesting similar changes in sectoral structure and the use of counter-cyclical policies across the industrial countries. This has contributed to the growing relative importance of global shocks, which the study suggests are the main source of business

cycle fluctuations across all regimes and models. The researchers note that it is difficult to distinguish between “true” global shocks and what are actually rapidly transmitted shocks in the central countries. They find some evidence that financial factors often seem present during, and may be linked to, periods of large global output shocks.

While data from the past few decades suggest that synchronized downturns are more common than syn-

chronized expansions, the longer historical data sample does not support this. In fact, the average number of countries in recession per year has varied across the four eras without trend. At the same time, the data indicate that synchronization patterns differ considerably across groups of countries, depending on factors such as country size and the region in which a country is located.

—Matt Nesvisky

Health Impacts of the **Zambian Malaria Initiative**

Since 2003, Zambia has been engaged in a large-scale, centrally coordinated national anti-malaria campaign which has become a model in sub-Saharan Africa. This program—which involved mass distribution of insecticide-treated mosquito nets, intermittent preventive treatment for pregnant women, indoor residual spraying, rapid diagnostic tests, and artemisinin-based combination therapy—contributed to decreasing the death rate from malaria in Zambia by 60 percent.

In **Evaluating the Effect of Large Scale Health Interventions in Developing Countries: The Zambian Malaria Initiative** (NBER Working Paper No. 16069), co-authors **Nava Ashraf**, **Gunther Fink**, and **David Weil** jointly analyze data on inputs and health outcomes to measure the program’s impact on overall population health. To esti-

mate the health benefits associated with the program, they use both population-based morbidity measures and health-

net per person in a district lowers fever prevalence by between 10 and 20 percentage points.

“100,000 [bed] nets distributed will lead to a reduction of about 900 under-age-five malaria inpatients, and to a reduction of approximately 100 child deaths.”

facility based mortality data. Specifically, they study data for children under the age of 5 and concentrate on two fundamental strategies of the anti-malaria initiative: spraying houses, and encouraging the distribution and use of bed nets in high-malaria, rural areas. They find that the rollout of bed nets varied significantly year by year, and that utilization rates of nets were well below the 85 percent program goal. Overall bed net use did, however, more than double over the period studied, reaching 43 percent. The researchers find that a distribution of one

The authors conclude that full coverage with bed nets (one net per capita) in the years prior to the surveys lowers child mortality by 4.4 percentage points. Using their health facility data, they conclude that 100,000 nets distributed will lead to a reduction of about 900 under-age-five malaria inpatients, and to a reduction of approximately 100 child deaths.

The results on spraying suggest smaller health effects. Providing full spraying coverage has about half the effect of providing full net coverage.

—Claire Brunel

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