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## Over-Optimism in Official Budget Agencies' Forecasts

Bringing budget deficits under control has been, and is, a difficult task for many advanced countries. In **Over-Optimism in Forecasts by Official Budget Agencies and Its Implications** (NBER Working Paper No. 17239), **Jeffrey Frankel** argues that overly optimistic official forecasts of future budget balances have facilitated complacency and so have contributed to tax cuts and increases in government spending, and therefore to realized budget deficits, during the last decade.

Analyzing data for 33 countries, Frankel finds that the average upward bias in the official forecast of the budget balance, relative to the realized balance, is 0.2 percent of GDP at the one-year horizon, 0.8 percent at the two-year horizon, and 1.5 percent at the three-year horizon. The longer the horizon, and the more genuine uncertainty there is, the more scope there is for wishful thinking.

The forecast bias results are similar across nations. The bias is not larger for the commodity producers in Frankel's sample, or for the developing countries, than for others. Both the U.S. and U.K. forecasts have shown positive biases, reaching around 3 percent of GDP at the three-year horizon, which is approximately equal to their actual deficit on average. In other words, on average the U.K. and U.S. forecasters repeatedly predicted a disappearance of their deficits that never occurred.

Frankel argues that one likely reason for the optimism bias in official budget forecasts is an optimism bias in forecasts of economic growth. He finds that a country's growth rate is an important determinant of the budget

also underestimate the persistence of busts. Frankel thus finds evidence of over-optimism in downturns as well as booms.

Despite calls for the establishment of rules, such as a formal ceiling

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“Overly optimistic official forecasts of future budgets have facilitated complacency and so have contributed to tax cuts and increases in government spending.”

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balance at all three time horizons, so over-optimism in predicting growth appears linked to over-optimism in predicting budget balances. On average, the upward bias in growth forecasts is 0.4 percent when looking one year ahead, 1.1 percent at the two-year horizon, and 1.8 percent at three years. The bias in growth forecasting appears in the United States and most other industrialized countries, but not among the commodity producing countries in the sample.

Frankel also finds that over-optimism is more prominent, for both budget balances and for economic growth, during economic booms. This is especially true as the horizon of the forecast lengthens. This over-optimism in official forecasts can help to explain excessive budget deficits, and especially the failure to run surpluses during periods of high output: if a boom is expected to last indefinitely, then saving for a rainy day is unnecessary. Forecasters over-estimate the permanence of booms, and

for the deficit, Frankel finds that countries subject to a budget rule — particularly the euroland's Stability and Growth Path — make official forecasts of growth and budget deficits that are even more biased and more correlated with booms than do other countries. Evidently when such governments exceed the deficit limits set by the rules, they respond by adjusting their forecasts rather than by adjusting their policies.

Finally, Frankel notes that while advanced economies in his sample have struggled with balancing their budget since 2000, some countries in the South, notably Chile, have carried out countercyclical policy during that time period, taking advantage of the 2002–7 boom years to attain budget surpluses. As a result of budget institutions created in 2000, Chile's official forecasts of growth and of budget balance have not been overly optimistic, even in booms.

– Claire Brunel

## Time Use during Recessions

In **Time Use during Recessions** (NBER Working Paper No. 17259), authors **Mark Aguiar, Erik Hurst, and Loukas Karabarbounis** investigate what activities occupy household members' time when they are unable to find work as a result of an economic downturn. The researchers find that roughly 30 to 40 percent of the "extra" nonworking hours associated with unemployment go to working in the home, which can include a range of activities, such as cooking and home repair. Nearly the same amount—30 percent—goes to sleeping longer and to watching television. The remaining time is mostly devoted to other leisure activities.

What about searching for another job? That takes up only about 1 percent of the extra hours, these researchers find. "Job search and work in the informal sector absorb small fractions of the foregone work hours," they conclude.

Although other research has modeled how unemployed people use their

extra time, this is the first study to use data from a very large sample of households—the American Time Use Survey

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"Job search and work in the informal sector absorb small fractions of the foregone work hours."

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from the Bureau of Labor Statistics—to determine how they actually allocate their time over the business cycle. One limitation of the data is that it begins in 2003, measuring only one pre-recession and one recession period. That makes it hard to differentiate recession-specific trends from longer-term changes in time use, such as the move toward more leisure which began in the 1960s.

Instead, the authors compare data from states hard hit by the recession with states that experienced a smaller rise in unemployment. That cross-state comparison allows them to discern certain trends that are specific to the recession period. For example: of the hours gained because of less work, some 13 percent went to

what the authors call "core home production activities," such as cooking, cleaning, and laundry. About 8 percent was

devoted to more shopping, 4 percent to the care of parents or other older adults, and some 7 percent to maintaining and repairing the home. Also, some 6 percent of the foregone work hours were given over to child care.

When unemployed, people actually invest much more time—more than 10 percent more time—in themselves in terms of health care, education, and civic activities. But most of the extra hours go to leisure, such as socializing with friends, watching TV, reading, and going to the movies. Another important change is an increase in hours of sleep. The unemployed use more than 20 percent of their lost work hours on extra sleep.

—Laurent Belsie

## New Evidence on the Effects of Health Insurance

In early 2008, Oregon opened a waiting list for a limited number of spots in its Medicaid program for low-income adults. This program had previously been closed to new enrollment. The state drew names by lottery from the 90,000 people who signed up. Random assignment of health insurance to some but not others had never been done before in the United States.

In **The Oregon Health Insurance Experiment: Evidence from the First Year** (NBER Working Paper No. 17190), authors **Amy Finkelstein, Sarah Taubman, Bill Wright, Mira Bernstein, Jonathan Gruber, Joseph Newhouse, Heidi Allen, Katherine Baicker, and The Oregon Health Study Group** examine the effects of the Oregon Medicaid lottery after approximately one year of insurance coverage. The authors find that those selected by the lottery to apply for Medicaid have substantially higher

health care utilization, lower out-of-pocket medical expenditures and medical debt, and better self-reported health than the control group that was not given the opportunity to apply.

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"Those selected by...lottery to apply for Medicaid have substantially and statistically significantly higher health care utilization, lower out-of-pocket medical expenditures and medical debt, and better self-reported health."

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Being selected through the lottery is associated with a 25-percentage-point increase in the probability of having insurance during the study period. This net increase in insurance appears to come entirely through a gross increase in Medicaid coverage, with little evidence of substituting public for private insurance.

They find that being covered by Medicaid is associated with a 2.1 percentage point (30 percent) increase in the probability of having a hospital admis-

sion, an 8.8 percentage point (15 percent) increase in the probability of taking any prescription drugs, and a 21 percentage point (35 percent) increase in the probability of having an outpatient visit. In

addition, insurance is associated with an increase in reported compliance with recommended preventive care, such as mammograms and cholesterol monitoring.

Medicaid coverage also results in decreased exposure to medical liabilities and to out-of-pocket medical expenses, including a 6.4 percentage point (25 percent) decline in the probability of having an unpaid medical bill sent to a collection agency and a 20 percentage point (35 percent) decline in having any out-of-pocket

medical expenditure. Because much medical debt is never paid, the financial incidence of expanded coverage thus appears to fall both on the newly insured and on their medical providers or others bearing the cost of uncompensated care. Finally, the authors find that insurance is associated with improvements across the board

in measures of self-reported physical and mental health.

The authors' estimates of the impact of public health insurance in this study apply to able-bodied, uninsured adults below 100-percent of poverty who express interest in Medicaid coverage. In 2011, fewer than half of the U.S. states

offered Medicaid coverage to this group, absent specific categorical requirements. As part of the 2010 Patient Protection and Affordable Care Act, starting in 2014 all states will be required to extend Medicaid eligibility to all adults up to 138 percent of the federal poverty level.

—Lester Picker

## Early Maternal Employment and Family Wellbeing

In **Early Maternal Employment and Family Wellbeing** (NBER Working Paper No. 17212), authors **Pinka Chatterji, Sara Markowitz, and Jeanne Brooks-Gunn** study the effects of mothers' work outside the home on maternal depression, self-reported health status, parenting stress, and parenting quality. They find that among mothers of 6-month old babies, working mothers report higher stress and more symptoms of depression than non-working mothers. Working mothers also report less good health than their non-working peers.

On average, an increase of ten hours of work—that is, a 40 percent increase in the average work hours for the employed mothers—is associated with an increase of 6 to 9 percent in a depression score used by the authors. Hours of work do not appear to have any effect on the quality of parenting at six months, though; in this study, "parenting quality" is measured by rat-

ings assigned by "trained observers" watching videotape of each mother interacting with her child in five semi-structured play situations at home and in laboratories.

and followed those children and their families from birth until age 15, interviewing them in person or by telephone every three months. When the children were 6 months old, their moth-

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"Detrimental effects [on mothers of six-month olds] of working outside the home are attenuated by the time the child is 4 ½ years old."

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The authors also examine similar measures of maternal outcomes four years later. It appears that any detrimental effects on mothers of working outside the home are attenuated by the time the child reaches 4 ½. The authors conclude that "if anything, more maternal work reduces parenting stress during the first 4.5 years." They do not find any evidence of adverse effects of hours of work on maternal health among mothers with 4 ½ year olds.

The data for this paper come from the Study of Early Child Care. It enrolled 1,364 healthy infants in 1991

ers were asked to complete a depression screening survey and were queried about their current levels of parenting stress, and their overall health. To measure parenting stress, the authors use the Abidin Parenting Stress Index and the Parent Role Quality Scale. To measure depressive symptoms, they use the Center for Epidemiologic Studies Depression Scale. The authors examine the scores on these scales relative to the hours that mothers reported working in an interview that was conducted when their child was 3 months old.

—Linda Gorman

## Investment in Schooling Responds to Changes in Returns

In Israel prior to 1998, all kibbutz members received equal wages—the wages of those working outside the kibbutz were pooled with the kibbutz profits and the sum was divided equally among the members. After 1998, some kibbutzim began basing their members' wages on the market wages for workers with similar occupations, skills, education, and experience. To create a minimum wage safety net for the elderly and low-wage earners, a kibbutz tax was still deducted from members' gross wages, but it was

much lower than the effective 100 percent tax on higher earnings that prevailed before the reforms. In other words,

**Redistribution Policies and in Returns** (NBER Working Paper No. 17093), **Ran Abramitzky** and **Victor Lavy** compare

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"Kibbutz ... pay reforms that reduced the effective tax rate increased high school completion rates ... by 3.3 percentage points."

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the reforms raised the returns to kibbutz members who acquired more human capital by investing in education or other skills.

In **How Responsive is Investment in Schooling to Changes in**

educational outcomes for high school students living on kibbutzim before and after these pay reforms. The researchers show that pay reforms that enabled kibbutz residents to keep a greater share of their increased wages raised high school

completion rates, already over 95 percent, by 3.3 percentage points. They also increased the mean score on the Bagrut, the nationwide qualifying exam for both the highly regarded Bagrut high school diploma and for entry into university, by 5 percent and increased the fraction of students with university-qualified Bagrut scores by 6 percent.

The authors further find that the effects of pay on schooling vary with the extent of the pay reforms, parents' education, students' gender, and the length of time since the reform came into play.

The effects of the reforms were relatively small for students from highly educated families, in contrast to relatively large effects for students from families with lower parental education who had been covered by the pay reform for all of their years in high school. This group's high school completion rates increased by 4.4 percent, their mean exam score went up by 8.3 points, their qualification rate for the Bagrut diploma increased by 19.6 percent, and the fraction of students with university qualifying scores increased by 16.8 percent. The authors also present

evidence suggesting that boys were most strongly influenced by the change.

The pay reform produced larger increases in educational outcomes than monetary bonuses for Bagrut diploma qualifying scores, a school choice program that allowed students to choose their high school in seventh grade, or a teacher bonus program that paid teachers of math, English, and Hebrew bonuses when their students did well on the Bagrut.

—Linda Gorman

## Vehicle Weight and Automotive Fatalities

Over the past 35 years, the average weight of light vehicles sold in the United States has fluctuated substantially. From 1975 to 1980, average weight dropped almost 1,000 pounds (from 4,060 pounds to 3,228 pounds), likely in response to rising gasoline prices and the passage of the Corporate Average Fuel Efficiency (CAFE) standard. As gasoline prices fell in the late 1980s, however, average vehicle weight began to rise, and by 2005 it had again reached its 1975 levels. In 2008, the average car on the road was roughly 530 pounds—that is 20 percent—heavier than the average car on the road twenty years earlier. Heavier vehicles are safer for their own occupants but are more hazardous for the occupants of other vehicles.

**In Pounds that Kill: The External Costs of Vehicle Weight** (NBER Working Paper No. 17170), authors **Michael Anderson** and **Maximilian Auffhammer** study data on all automo-

bile collisions reported to the police in eight states—a total of 4.8 million collisions. The probability of a fatality, condi-

tioned on a collision, is 0.19 percent—or about one in five hundred. The authors find that being hit by a 1,000-pound heavier vehicle results in a 47 percent increase in the baseline probability of being killed in the accident—roughly a one in one thousand increase in fatality risk, conditional on a collision. The fatality risk is even higher if the striking vehicle is a light truck (SUV, pickup truck, or minivan). These researchers estimate that the total external costs of vehicle weight that arise from fatalities alone are \$93 billion per year. They estimate that the value of the external risk that is generated by the gain in fleet weight since 1989 is approximately 27 cents per gallon of gas-

“Being hit by a 1,000-pound heavier vehicle results in roughly a one in one thousand increase in fatality risk.”

oline and that the total fatality externality of heavier vehicles is roughly \$1.08 per gallon.

The authors note that traffic accidents are the leading cause of death for persons under the age of 40 and are a major source of life-years lost. Even though lung cancer kills approximately four times as many Americans each year as traffic accidents, because the average lung cancer decedent is 71 years old while the average traffic accident decedent is only 39 years old, the number of life-years lost to traffic accidents is similar in magnitude to the number of life-years lost to lung cancer. This underscores the importance of understanding the determinants of fatal automobile accidents.

—Lester Picker

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