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## Duration Dependence and Labor Market Conditions

According to a recent report by the Congressional Budget Office, long-term unemployment may “produce a self-perpetuating cycle wherein protracted spells of unemployment heighten employers’ reluctance to hire those individuals, which in turn leads to even longer spells of joblessness.” Policymakers and researchers alike tend to believe that this adverse effect of a long spell of unemployment undermines the smooth functioning of the labor market and entails large social costs. Economists refer to the phenomenon as “negative duration dependence.”

In **Duration Dependence and Labor Market Conditions: Theory and Evidence from a Field Experiment** (NBER Working Paper No. 18387), authors **Kory Kroft**, **Fabian Lange**, and **Matthew Notowidigdo** confirm that the likeli-

hood of receiving a callback for a job interview sharply declines with unemployment duration. This effect is especially pro-

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“The likelihood of receiving a callback for a job interview sharply declines with unemployment duration.”

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nounced during the first eight months after becoming unemployed. Their estimates suggest that this effect is quantitatively important, and that duration dependence is stronger when jobs are relatively abundant. These results imply that employers statistically discriminate against workers with longer unemployment durations and that employer screening plays an important role in generating duration dependence.

To study duration dependence, the authors submitted fictitious resumés to real, online job postings in each of the 100 largest metropolitan areas in the

United States, and then tracked “callbacks” from employers for each submission. In total, they “applied” to roughly 3,000 job

postings in Sales, Customer Service, Administrative Support, and Clerical job categories, submitting roughly 12,000 resumés. The resumés they created characterized the “applicant’s” employment status and, if unemployed, the length of the current unemployment spell, which ranged from 1 to 36 months and was randomly assigned. As a result, this experiment directly uncovered duration dependence arising through employers’ beliefs about unemployed workers.

— Lester Picker

## Changes in Smoking and Obesity Affect Future Life Expectancy

Deaths from smoking and obesity play a significant role in any estimates of future U.S. life expectancy. Cigarette consumption per adult per year has fallen from a high of more than 4,000 in the early 1960s to fewer than 2,000 in the early 2000s, and that reduction in smoking should increase life expectancy. However, population obesity began to rise in the 1980s, and that trend is associated with decreased life expectancy. To further complicate any estimates of the effects of these trends on mortality, researchers observe that men and women behave differently and thus will be affected differently by changes in smoking and obesity.

In **Projecting the Effect of Change in Smoking and Obesity on Future Life Expectancy in the United States** (NBER Working Paper No. 18407), co-authors **Samuel Preston, Andrew Stokes, Neil Mehta, and Bochen Cao** forecast the likely net effect of changes on U.S. mortality rates from 2010 through

2040. They find that men benefit from significantly reduced smoking, with life expectancy for 40-year old men in 2040 expected to increase by 0.92

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“Life expectancy for 40-year old men in 2040 is expected to increase by 0.92 years compared to... 2010. For women [there is]... a smaller increase in expected life expectancy — only 0.26 years.”

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years compared to life expectancy in 2010. For women, the more muted decline in smoking is largely offset by the surge in obesity, resulting in a smaller increase in expected life expectancy — only 0.26 years.

The authors note that data from National Health and Nutrition Examination Surveys suggest that the probability of becoming obese, given one’s weight at age 25, has been nearly constant for the past 18 years. Given that figure, they estimate that 47 percent of men and 51 percent of women may be obese by 2040. Furthermore, by 2020 and thereafter a majority of obese women will be morbidly obese — that is, with a body mass index above 35. These

changes are expected to raise death rates for 40-to-84 year-old men by as much as 13 percent and for women of the same ages by as much as 20 percent.

Using deaths from smoking-related cancers as a proxy for smoking, the authors estimate that age-specific death rates for male smokers will decline between 2010 and 2040, largely because the heaviest smoking male cohorts were more than 80 years old in 2010. They predict that men will gain 1.5 years of life by 2040 from reduced smoking. Since women began smoking more recently than men, the heaviest smokers among women do not “age out” until 2025–30. Therefore, life expectancy gains for women as a whole rise after 2025, cumulating at 0.85 years for 40-year-old women in 2040.

— Linda Gorman

## Experimental Evidence from Energy Conservation Programs

In 2008, one electric utility implemented a program in which it randomly selected

about 43,000 of its household customers to receive “Home Energy Reports” which feature

personalized feedback, social comparisons, and energy conservation information. About

a quarter of that sample group was randomly selected to no longer receive those reports after two years. In **The Short-Run and Long-Run Effects of Behavioral Interventions: Experimental Evidence from Energy Conservation** (NBER Working Paper No. 18492), **Hunt Allcott and Todd Rogers** analyze the short-term and long-term results of this program on energy conservation behavior.

They find that in the short run, there is a pattern of “action and backsliding.” As the initial reports arrive, some consumers are immediately motivated to conserve. They adjust thermostats, turn off lights, and unplug unused electronics. However, those households soon begin to “backslide” toward their pre-intervention levels of energy use, at least until the arrival of subsequent reports, which induce at least some of these same households to conserve.

The authors find that the

effects of this program are highly durable. As long as the reports continue to arrive over

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“At the end of four years, the average household that was still receiving [energy use] reports was taking actions equivalent to turning off a standard 60-watt light bulb for about 11 hours each day.”

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the third and fourth years, the households receiving them continue to incrementally reduce their energy use. Even for households dropped from the program after year two, about two-thirds of the effect on conservation remains two years later. At the end of four years, the average household that was still receiving reports was taking actions equivalent to turning off a standard 60-watt light bulb for about 11 hours each day; the average household dropped from the program was still taking actions equivalent to turning off that light bulb for 7.5 hours each day.

However, the evidence from this experimental program sug-

gests that the households that continued to receive reports were no more inclined than

households in the control group (no reports) to invest in physical capital, such as energy efficient appliances or insulation. Based on self-reported data on actions taken to conserve energy, it would seem that the program does not significantly induce households to adopt new energy habits, but instead might motivate households to do more of the same things that they were already doing to reduce energy consumption. The authors conclude that it is important to repeat an intervention until participants have developed a new “capital stock” of habits or other technologies.

— Claire Brunel

## Dynamic Aspects of Family Transfers

In **Dynamic Aspects of Family Transfers** (NBER Working Paper No. 18446), **Kathleen McGarry** examines data on 17 years of transfers between parents and their adult children and finds that parents evaluate their children’s income prospects before making gifts.

When those prospects dim, especially after a reversal such as the loss of a job or a divorce, parents are willing to kick in money to ease the situation.

“Transfers made in conjunction with specific events in the child’s life appear to be important and suggest that parents

frequently respond to negative shocks to the child’s income,” she writes. McGarry also finds that gifts to adult children both vary over time and differ across children in the same family. In directing their gifts, parents appear more motivated to help their less fortunate children

than to treat all of their children equally.

Previous studies have found that in any given year, parents give their adult children an estimated \$65 billion (in 2010 dollars). Some of these studies suggested that the flows could be explained by an altruism model, which predicts that parents give more to their neediest children. Other studies seemed to suggest that the exchange model, which says that parents pay for services rendered by their children, is what is at work. McGarry develops a dynamic model of parental altruism, built around the idea that a parent's expectations of a child's income change over time and that giving changes with it. She points out, however, that some giving appears motivated by factors outside this model.

Drawing on data from the Health and Retirement Study from 1992 to 2008, she provides some of the first evidence on how parental giving varies over time. For example, approximately 14 percent of the children in her sample of 3,776 fam-

ilies received a cash transfer from their parents in a particular two-year period, but only 6 percent received a transfer in two adja-

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“Parents appear more motivated to help their less fortunate children than to treat all of their children equally.”

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cent surveys. Similarly, nearly half of the children (46 percent) received a transfer in one of the nine biennial surveys, but less than 1 percent reported receiving a transfer in all of those periods. Moreover, the period-to-period changes in transfers were strongly correlated with changes in the child's income.

The gifts to children within a family didn't average out over time. Those with the smallest current income, and those with low permanent income, tended to get the largest amounts from parents.

McGarry also finds evidence that parents give for positive developments in a child's life. Those who completed their sixteenth year of schooling between two surveys (and thus who likely graduated from college) received approximately

\$500 more than those who did not. Those who married between one survey and the next had a roughly 30 percent

greater probability of getting a transfer than their counterparts who did not. The birth of a grandchild offered the biggest bonus of all. The parent of a grandchild reported an average transfer of \$5,758, more than \$1,500 greater than the average of \$4,236 for those who didn't report a new child.

Some of the largest transfers came after negative events that affected a child's income. The loss of a job resulted in an average transfer of \$5,257, the largest of any life event except the birth of a grandchild. Those who went through a divorce had a 61 percent greater probability of receiving money from parents than those who didn't get divorced.

— Laurent Belsie

## Emissions, Electric Cars, and Other Pollution-Control Policies

The policy goal of reducing CO<sub>2</sub> and other emissions from the transportation sector has led to interest in plug-in electric vehicles (PEVs). The United Kingdom has made elec-

tric cars an important part of its overall efforts to reduce carbon-dioxide emissions. In California, policymakers have required manufacturers to offer PEVs for sale as part of its own overall

climate-change measures. Elsewhere in the United States, the federal government and other state governments offer an array of financial incentives to promote electric cars, including tax

credits for consumers.

PEVs shift the energy consumption associated with transportation toward centrally-generated electrical power and away from engines in individual vehicles, leading to more efficient energy consumption. But power plants also have emissions. In fact, electric power plants, particularly those that burn coal, are an important source of carbon-dioxide emissions, accounting for more than 40 percent of domestic CO2 emissions in the United States.

How greater use of PEVs would affect CO2 emissions in the United States depends critically on the way that the electricity used to charge the batteries in these cars is generated. In **Spatial and Temporal Heterogeneity of Marginal Emissions: Implications for Electric Cars and Other Electricity-Shifting Policies** (NBER Working Paper No. 18462), **Joshua Graff Zivin**, **Matthew Kotchen**, and **Erin**

**Mansur** conclude that “electricity shifting” policies, such as moving to increased use of PEVs, may not reduce CO2

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“Moving to increased use of PEVs may not reduce CO2 because of local variation in daily, and even hourly, patterns of electricity production and consumption.”

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because of local variation in daily, and even hourly, patterns of electricity production and consumption. The analysis is complicated by the fact that electric power is often transmitted across long distances through power lines, so that the CO2 emissions associated with charging a PEV in one state may be located in another.

Using data from the U.S. Environmental Protection Agency, the Energy Information Administration, the Federal Energy Regulatory Commission, and other sources, the authors analyze energy use and emissions over a three-year period, from 2007 through 2009. They track energy production and consumption by the hour of the

day within different regions. They conclude that on net, in the western United States and in Texas, driving PEVs would

result in lower carbon-dioxide emissions than driving fuel-efficient hybrid cars. But in other regions, such as the upper Midwest, where the fuel mix for electricity generation is more heavily tilted toward coal, the charging of PEV batteries during the recommended hours of midnight to 4 AM could result in more emissions than those associated with the average car now on the road. “Underlying this result is a fundamental tension between load management of electricity and achieving environmental goals,” the authors conclude. “The hours when electricity is the least expensive to produce tend to be the hours with the greatest emissions.”

— Jay Fitzgerald

## African Agricultural Decisions after Relaxing Credit and Risk Constraints

In recent decades lagging agricultural productivity in sub-Saharan Africa has motivated charities and policymakers to implement assistance programs, usually by promoting hybrid seeds and fertilizers. But in focus

group interviews, farmers in the region commonly report “lack of money” or concerns regarding the high risk from weather and disease as key obstacles to investing in their land.

In **Agricultural Decisions**

**after Relaxing Credit and Risk Constraints** (NBER Working Paper No. 18463), co-authors **Dean Karlan**, **Robert Osei**, **Isaac Osei-Akoto**, and **Christopher Udry** analyze the results of experiments con-

ducted in northern Ghana in which farmers randomly received cash grants, opportunities to purchase rainfall index insurance, or a combination of the two. They find that when provided with insurance against the primary catastrophic risks they face, the farmers are able to find the resources to increase expenditures on their farms.

The authors seek to understand how capital and risk interact, and under what circumstances they lead to underinvestment. To do this, they devise a three-year random experiment. In year one, maize farmers are provided a cash grant (or no cash grant) and a rainfall insurance grant (or no rainfall insurance grant). In year two, a cash grant is again offered, but rainfall insurance is no longer given out for free. Instead, it is for sale at randomly varied prices ranging from one eighth of its actuarially fair price to the market price (that is, actuarially fair plus a market premium to cover

servicing costs). In year three, the farmers are offered only the insurance pricing experiment.

“When provided with insurance against the primary catastrophic risk they face — drought or floods — farmers are able to find the resources to increase expenditure on their farms.”

The researchers find that agricultural investment responds quite a bit to the rainfall insurance grant, but relatively little to the cash grants. The salient constraint to farmers’ investment appears to be uninsured risk: when provided with insurance against the primary catastrophic risk they face — drought or floods — farmers are able to find the resources to increase expenditure on their farms. Even at the actuarially fair price for insurance, 40 to 50 percent of the farmers demand it, and they purchase coverage for more than 60 percent of their cultivated acreage. Because the farmers do not seem to completely trust that payouts will be made when rainfall insurance trig-

ger events occur, the demand for insurance is sensitive to the experience of the farmer him-

self and to that of others in his social network with insurance. Demand for insurance increases after either the farmer or others in his network receive an insurance payout, and demand decreases if a farmer was previously insured and the rainfall was good, resulting in no payout.

The authors suggest that their experiment provides an important lesson for the micro-credit community: capital constraints are not the only, or sometimes even the most important, hurdle to raising investment. Risk is a key hindrance to investment and thus to improved income and growth. Mitigating risk even without an infusion of capital leads to higher investment.

— Matt Nesvisky

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